SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

(Mark one)

[X] ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 1998

or

[ ] TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(D) OF THE SECURITIES EXCHANGE ACT OF 1934

Commission File Number 0-15006

AVANT IMMUNOTHERAPEUTICS, INC.
(f/k/a T Cell Sciences, Inc.)
(Exact name of registrant as specified in its charter)

Delaware	13-3191702
(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification No.)

119 Fourth Avenue, Needham, Massachusetts 02494
(Address of principal executive offices)(Zip Code)

Registrant's telephone number, including area code: (781) 433-0771

Securities registered pursuant to Section 12(b) of the Act: None

Securities registered pursuant to Section 12(g) of the Act:
common stock, par value $.001

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes X No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of Registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. [ ]

The aggregate market value of common stock held by non-affiliates as of March 1, 1999 was $57,134,276 (excludes shares held by directors and executive officers). Exclusion of shares held by any person should not be construed to indicate that such person possesses the power, direct or indirect, to direct or cause the actions of the management or policies of the Registrant, or that such person is controlled by or under common control with the Registrant. The number of shares of common stock outstanding at March 1, 1999 was: 42,532,100 shares.

Documents Incorporated by Reference

Portions of the Registrant's Proxy Statement for the Annual Meeting of Stockholders to be held on May 6, 1999, are incorporated by reference into Part III of this Form 10-K.

Safe Harbor Statement under the Private Securities Litigation Reform Act of 1995: Statements contained in this report, including Part I, Item 1: Business, that are not historical facts may be forward-looking statements that are subject to a variety of risks and uncertainties. There are a number of important factors that could cause the actual results to differ materially from those expressed in any forward-looking statements made by the registrant. These factors include, but are not limited to: (i) the registrant's ability to successfully complete product research and development, including pre-clinical and clinical studies, and commercialization; (ii) the registrant's ability to obtain substantial additional funding; (iii) the registrant's ability to obtain required governmental approvals; (iv) the registrant's ability to attract manufacturing, sales, distribution and marketing partners and other strategic alliances; and (v) the registrant's ability to develop and commercialize its products before its competitors.

PART I

Item 1. BUSINESS

A. General

AVANT Immunotheraputics, Inc. (f/k/a "T Cell Sciences, Inc.," herein referred to as the "Company" or "AVANT") is a biopharmaceutical company that uses novel applications of immunology to prevent and treat diseases caused by both the enemy within (autoimmune diseases, cardiovascular diseases, cancer and inflammation) and the enemy without (infectious diseases and organ transplant rejection). Each of the Company's products address large market opportunities for which current therapies are inadequate or non-existent.

On August 21, 1998, AVANT acquired Virus Research Institute, Inc., a Delaware

corporation ("VRI"), pursuant to an Agreement and Plan of Merger dated as of May 12, 1998 (the "Agreement") by and among the Registrant, TC Merger Corp., a Delaware corporation and wholly-owned subsidiary of the Registrant and VRI. Under the terms of the Agreement, VRI became a wholly-owned subsidiary of AVANT.

AVANT's products derive from a broad set of complementary technologies with the ability to inhibit the complement system, regulate T and B cell activity, and enable the creation and delivery of preventative and therapeutic vaccines. The Company is using these technologies to develop vaccines and immunotherapeutics that prevent or treat disease caused by infectious organisms, and drugs and treatment vaccines that modify undesirable activity by the body's own proteins or cells.

Complement Inhibitors: AVANT is developing a new class of therapeutics that inhibit the complement system, a key triggering mechanism for the inflammatory response. Medical problems that result from excessive complement activation represent multi-billion dollar market opportunities. These include reperfusion injury -- the vascular and tissue damage that occurs following a heart attack, stroke or surgical procedure where the patient's blood supply is shut off and then restored; hyperacute or chronic organ rejection following transplantation; acute inflammatory injury to the lungs; autoimmune diseases; and Alzheimer's disease. In a Phase I/II trial, AVANT's first complement product, TP10, demonstrated positive clinical efficacy and safety in patients with reperfusion injury following lung transplantation. The Company is also in preclinical development with a second complement inhibitor, TP20, which inhibits neutrophils and can be targeted to specific sites.

Atherosclerosis Treatment Vaccine: AVANT is developing a novel treatment vaccine aimed at increasing levels of high-density lipoprotein (HDL, or so-called "good" cholesterol). Low levels of HDL are associated with an increased risk of atherosclerosis, which in turn leads to heart disease and stroke, among other health problems. The vaccine stimulates the production of antibodies to cholesteryl ester transfer protein (CETP), which mediates the balance between HDL and low-density lipoprotein (LDL, or "bad" cholesterol). In preclinical studies, the CETP vaccine increased HDL levels and significantly reduced atherosclerotic lesions in blood vessels as compared with an untreated control group. AVANT plans to initiate clinical trials of its CETP vaccine during the first half of 1999.

T Cell Regulators: Based on 15 years of research, AVANT has developed a world-leading understanding of the T cell-mediated immune response and the signal transduction pathways involved in its control. The T cell antigen receptor (TCAR) program, now under development by Astra AB ("Astra"), aims to treat autoimmune diseases by selectively inhibiting disease-causing immune cells without impairing normal immune functions.

Vaccines and Immunotherapeutics: AVANT is developing both preventive vaccines against important human pathogens, and treatment vaccines and immunotherapeutics that fight disease by turning the immune system against chronic viral infections, cancerous cells, or harmful proteins made by the body itself.

Preventative Vaccines for Infectious Diseases: The Company has developed several novel delivery technologies that address shortcomings in currently available delivery methods as well as provide new methods of vaccine delivery. These vaccine delivery systems, which are based on a novel polymer (Adjumer(TM) and Micromer(TM) vaccines) have the potential to improve existing injectable vaccines and to permit intranasal and oral vaccine delivery. The Company currently has several vaccines in clinical development on its own and with corporate partners.

Immunotherapeutics: Therapore(TM) is a proprietary technology that uses an injectable bacterial protein system to deliver protein and peptide antigens into human cells in order to generate potent cell-mediated immune responses against those antigens. The Company plans to employ Therapore(TM) to develop novel immunotherapeutics for the treatment of chronic viral infections and cancers. AVANT expects to initiate human clinical trials of its first Therapore(TM)-based product, a treatment vaccine for melanoma, in the first half of 1999.

B. Strategy

AVANT's strategy is to utilize its expertise to design and develop vaccine and immunotherapeutic products that have significant and growing market potential; to establish commercial alliances that permit funding of clinical development and rapid commercialization; and to retain rights to certain important market opportunities.

Develop Novel Vaccine and Immunotherapeutic Delivery Systems: AVANT is developing a portfolio of vaccine and immunotherapeutic delivery systems to address shortcomings in currently available delivery methods, as well as to provide new methods of vaccine and immunotherapeutic product delivery. AVANT's vaccine delivery systems, which are based on a novel polymer, have the potential to improve existing injectable vaccines and to permit intranasal and oral delivery of vaccines. These systems may be applicable to most of the vaccines in routine use and may enable the introduction of new vaccines to prevent bacterial or viral diseases for which there is currently no adequate treatment or prevention. AVANT intends to pursue the broad application of its current vaccine and immunotherapeutic delivery systems, as well as to continue to invest in the development of new vaccine and immunotherapeutic delivery technologies.

Develop Proprietary Vaccines: AVANT is currently developing several proprietary vaccines believed to have significant commercial promise. AVANT is continuing to seek licenses for suitable antigens to be used to develop vaccines with a significant market potential. AVANT believes that the development of its own proprietary vaccines complements its development of novel vaccine and immunotherapeutic delivery systems and that its ability to combine its vaccine and immunotherapeutic delivery technology with its own proprietary antigens may lead to the introduction of new vaccines and immunotherapeutic products with significant competitive advantage.

Develop Immunotherapeutic Products: AVANT is developing Therapore(TM), a proprietary technology that uses a bacterial protein system for the injectable delivery of proteins and peptides to generate potent cell-mediated immune responses. Based on preclinical research, including animal studies conducted to date, AVANT believes that Therapore(TM) will be able to deliver both peptide and protein antigens into human cells, which may lead to the development of potent cell-mediated immune responses. AVANT believes Therapore(TM) could be a core technology in the development of novel immunotherapeutic products and that the development of these products complements its development of novel vaccine delivery systems and proprietary vaccines. AVANT intends to pursue the broad application of Therapore(TM) across the field of persistent viral infections and certain cancers.

Establish Collaborations for Product Development and Commercialization: AVANT has entered into and intends to seek additional collaborative agreements with established vaccine and pharmaceutical companies to develop vaccines and immunotherapeutic products utilizing AVANT's delivery systems and its collaborators' antigens. By entering into these collaborations, AVANT believes it may benefit from the antigen development work already performed by its collaborators and from access to their extensive clinical testing capabilities, wide distribution and marketing infrastructure and market

presence. This strategy may permit AVANT to take advantage of the expertise of its collaborators and thereby expedite commercialization of products incorporating AVANT's technologies.

AVANT intends to seek collaborators who will assume responsibility for completing clinical testing of certain of the Company's proprietary vaccines and immunotherapeutics which are currently being developed by the Company and for manufacturing and marketing those products. AVANT intends to develop such proprietary vaccines and immunotherapeutics to a point at which such collaborations could be established and could be commercially favorable to the Company. AVANT believes that this strategy will allow the successful market introduction of products incorporating AVANT's technologies without AVANT incurring the substantial costs associated with Phase II and III clinical development.

C. Therapeutic Drug Discovery Programs

1. Complement Inhibition

AVANT is developing a new class of therapeutics that inhibit a part of the immune system called the complement system. The complement system is a series of proteins that are important initiators of the body's acute inflammatory response against disease, infection and injury. Excessive complement activation also plays a role in certain persistent inflammatory conditions. When complement is activated, it helps to identify and eliminate infectious pathogens and damaged tissue. In certain situations, however, excessive complement activation may destroy viable and healthy tissue and tissue which, though damaged, might recover. This excessive response compounds the effects of the initial injury or introduces unwanted tissue destruction in clinical situations such as organ transplants, cardiovascular surgeries and treatment for heart attacks. Independent, published studies have reported that AVANT's lead compound, TP10, a soluble form of naturally occurring Complement Receptor 1, effectively inhibits the activation of the complement cascade in animal models. AVANT believes that regulation of the complement system could have therapeutic and prophylactic applications in several acute and chronic conditions, including reperfusion injury from surgery or ischemic disease, organ transplant, multiple sclerosis, Alzheimer's disease, rheumatoid arthritis, and myasthenia gravis. In the United States, several million people are afflicted with these complement-mediated conditions.

AVANT started the complement program in 1988. From 1989 through 1994, TP10 was under development in a joint program with SmithKline Beecham, p.l.c. ("SmithKline") and Yamanouchi Pharmaceutical Co. ("Yamanouchi"). During 1994, AVANT and SmithKline negotiated various amendments to the agreement and, in February 1995, the two companies agreed to a mutual termination by which AVANT regained all rights to the program except for co-marketing rights in Japan, which are retained by SmithKline and Yamanouchi.

Under AVANT's direction, in 1995 the first Phase I clinical trial of TP10 in 24 patients at risk for ARDS was completed. Results of this trial were presented in October 1995 at The American College of Chest Physicians meeting. A second Phase I safety trial for reperfusion injury was completed in December 1995 in 25 patients with first-time myocardial infarctions. This study was presented at the American Heart Association's Joint Conference on Thrombosis, Arteriosclerosis and Vascular Biology in February 1996. In each trial, TP10 demonstrated excellent safety and pharmacokinetic profiles, had a terminal phase half-life of at least 72 hours and was able to inhibit complement activity in a dose-dependent manner.

Based on these favorable results, in January 1996, AVANT initiated a Phase IIa trial in patients with established ARDS. This trial was an open-label, single-dose feasibility trial to determine the potential for efficacy of TP10 in reducing neutrophil accumulation in the lungs and improved clinical outcome of patients with ARDS. During the second half of 1996, AVANT initiated a series of steps, including broadening enrollment criteria, to modify this trial to improve the rate of patient accrual. In December 1997, AVANT completed this Phase IIa trial after it had enrolled nine patients with ARDS arising from a number of different medical conditions. The trial results showed that patients receiving TP10 tended towards improved respiratory performance and improved blood oxygenation. Because the trial included few patients and no placebo control was used, no definitive claims about efficacy could be made.

In August 1996, AVANT began enrollment in a Phase I/II clinical trial in patients undergoing lung transplantation. A goal of the trial was to determine the ability of TP10 to reduce reperfusion injury and improve lung function in patients with

end-stage pulmonary disease who were undergoing lung transplant surgery. This study was a randomized, placebo-controlled, double-blind trial consisting of single dosages of 10 mg/kg of TP10 as an intravenous infusion over 30 minutes. The trial was conducted at multiple centers in North America and included a total of 59 patients. In May 1997, AVANT announced the completion of patient accrual. In October 1997, AVANT presented positive preliminary results from the efficacy portion of the trial. In April 1998, AVANT presented final trial results at the International Society of Heart and Lung Transplantation conference. The final results showed that TP10 therapy appeared safe and well tolerated and demonstrated significant efficacy. Treated patients undergoing cardiopulmonary by-pass as part of the transplantation procedure showed significantly decreased intubation time and time on ventilation and a trend toward reduced time in the intensive care unit.

In October 1997, AVANT announced it had entered into a collaborative agreement with Novartis Pharma AG, Basel, Switzerland ("Novartis") relating to the development of TP10 for use in xenotransplantation (animal organs into humans) and allotransplantation (human to human organ transplantation). Under the agreement, AVANT will receive annual option fees and supplies of TP10 for clinical trials, the combination of which is valued at up to approximately $5 million, in return for granting Novartis a two-year option to license TP10 with exclusive worldwide (except Japan) marketing rights. Should Novartis exercise its option to license TP10 and continue development, AVANT will receive an equity investment, licensing fees and milestone payments based upon attainment of certain development and regulatory goals, which has an approximate aggregate value of up to $25 million. AVANT may also receive funding for research as well as royalty payments on eventual product sales.

In addition to TP10, AVANT has identified other product candidates to inhibit activation of the complement system. The lead candidate under research evaluation is a form of sCR1, (TP10), which has been modified by the addition of sLe(x) carbohydrate side chains ("sCR1sLe(x)"). sLe(x) is a carbohydrate which mediates binding of neutrophils to selectin proteins, which appear on the surface of activated endothelial cells as an early inflammatory event. Selectin-mediated binding of neutrophils to activated endothelial cells is a critical event in inflammation. The sCR1sLe(x) molecule has demonstrated increased functional benefits in in vitro and early in vivo experiments. During 1996, AVANT confirmed the presence of the desired carbohydrate structures and their function in in vivo experiments and confirmed the presence of both anti-complement and selectin-binding functions in in vitro experiments. During 1997, AVANT produced additional sCR1sLe(x) material and began preclinical studies in disease-relevant animal models.

sCR1sLe(x) may create new and expanded opportunities for AVANT in complement and selectin- dependent indications such as stroke and myocardial infarction. AVANT believes that sCR1sLe(x) has the ability to target the complement-inhibiting activity of sCR1 to the site of inflammation and, at the same time, inhibit the leukocyte/endothelial cell adhesion process.

2. CETP Vaccine

AVANT is developing a therapeutic vaccine against endogenous cholesteryl ester transfer protein which may be useful in reducing risk factors for atherosclerosis. CETP is a key intermediary in the balance of high-density lipoprotein ("HDL") and low-density lipoprotein ("LDL"). AVANT is developing a vaccine to stimulate an immune response against CETP which it believes may improve the ratio of HDL to LDL cholesterol and reduce the progression of atherosclerosis. AVANT has conducted preliminary studies of rabbits which had been administered the CETP vaccine and fed a high-cholesterol, high-fat diet. In these studies, vaccine-treated rabbits exhibited reduced lesions in their blood vessels compared to a control group of untreated rabbits which developed significant blood vessel lesions. These studies have demonstrated, in animal models, AVANT's ability to break immune tolerance, produce autoreactive antibodies to CETP and reduce the development of blood vessel lesions.

Atherosclerosis is one of the leading causes of morbidity and mortality in the United States and most of the Western world. Current pharmacologic treatments require daily administration and can result in high costs and poor patient compliance. A vaccine directed at lowering CETP activity, such as the one being developed by AVANT, may offer several advantages over conventional approaches, including requiring less frequent dosing, lower costs, reduced side effects, and improved patient compliance.

In September 1996, the National Institutes of Health (the "NIH") awarded AVANT a $100,000, Phase I Small Business Innovation Research ("SBIR") grant for the development of a novel transgenic rat atherosclerosis model, affording better

comparison to human atherosclerosis. In February 1997, the NIH awarded AVANT a second $100,000 Phase I SBIR grant to develop a novel plasmid-based vaccine to prevent or treat atherosclerosis. In September 1997, AVANT was awarded a $678,000 Phase II SBIR grant from the NIH which provides funding over a two year period for the continued development of the novel transgenic rat model of atherosclerosis. In January 1998, AVANT received a $96,000 Phase I SBIR grant from the NIH for the development of a novel peptide vaccine to prevent or treat atherosclerosis.

AVANT plans to initiate clinical trials of its CETP vaccine during the first half of 1999.

3. T Cell Regulators

In early 1992, AVANT entered into a joint development program with Astra to develop products resulting from AVANT's proprietary TCAR technology, which utilizes T cell antigen receptor for selectively targeting T cells involved in autoimmune diseases such as multiple sclerosis and rheumatoid arthritis. The original agreement was modified in December 1993 with Astra assuming all responsibility for the development of the lead antibody products and AVANT retaining leadership of the first peptide product candidate. Under the original and modified agreements, AVANT received funding support of approximately $15 million in the early years with the potential of up to $17 million of additional funding based on clinical progress. By the end of 1995, AVANT had received substantially all of the original funding payments.

In December 1996, AVANT amended its agreement with Astra to transfer certain of its rights to the TCAR technology, including two therapeutic products, ATM027 and ATP012, to Astra, which is solely responsible for further clinical development and commercialization. Under the amended agreement, AVANT could receive royalties from product sales, as well as milestone payments which may total up to $4 million as certain clinical milestones are achieved.

In June 1997, AVANT announced that it received a milestone payment from Astra as one of the products derived from AVANT's TCAR program entered clinical trials for the treatment of multiple sclerosis. In February 1998, Astra announced that Phase I data has shown an effect on the target cells and that there have been no serious adverse effects in the study to date. Astra initiated a Phase II study in 1998.

D. Vaccines, Vaccine Delivery Systems and Immunotherapeutics

1. Overview

The Vaccine Market: Vaccines have long been recognized as a safe and cost-effective method for preventing infection caused by certain bacteria and viruses. The Centers for Disease Control and Prevention (the "CDC") have estimated that every dollar spent on vaccination saves $16 in healthcare costs. There are currently 23 vaccines in routine use in the United States against such life-threatening infectious organisms as tetanus, diphtheria, poliovirus, hepatitis A virus, hepatitis B virus, Haemophilus influenzae B, measles, mumps and rubella. From 1990 to 1996, annual worldwide vaccine sales increased from $1.6 billion to $4.0 billion, a compound annual growth rate of approximately 16.5%. AVANT believes that this growth rate may accelerate as a result of advances in vaccine technologies and formulations that address the shortcomings of existing vaccines. Areas of potential improvement include enhancement of immune responses, which could lead to a reduction in the number of doses required for effective protection as well as effective immunization in a higher percentage of the population, and delivery of vaccines through methods other than injection. The vaccine market is expected to expand due to the introduction of new vaccines utilizing purified antigens, produced as a result of advances in molecular biology. AVANT also believes that the growing awareness and incidence of certain infectious diseases, such as H. pylori, hepatitis C virus, HIV1 and HSV2 infection, together with the availability of new vaccines, could further expand the vaccine market.

The Immune System and Vaccines: The function of the human immune system is to respond to pathogens, including infectious bacteria and viruses, that enter the body. However, a pathogen may establish an infection and cause disease before it is eliminated by an immune response. Antibodies are produced as part of the immune response to antigens, which are components of the pathogen. These antibodies can continue to circulate in the human body for many years, providing continued protection against reinfection by the same pathogen.

Protective antibodies can be produced in both the systemic and mucosal branches of the immune system. The systemic immune system produces IgG antibodies to protect against infection occurring in blood and deep tissue. The mucosal immune system produces IgA antibodies that protect against infection occurring in the mucosal layer lining the digestive, respiratory and genitourinary tracts. Mucosal immunity may act as a first line of defense by attacking pathogens at the point of entry into the body, prior to systemic penetration, as well as by targeting certain pathogens such as H. pylori, influenza and rotavirus that propagate exclusively at the mucosal layer.

Vaccines are a pre-emptive means of generating a protective antibody response. A vaccine consists of either a weakened pathogen or pathogen-specific, non-replicating antigens which are deliberately administered to induce the production of antibodies. When weakened pathogens are used as a vaccine, they replicate in the body, extending presentation to the immune system and inducing the production of antibodies without causing the underlying disease. When non-replicating antigens are used as a vaccine, they must be delivered in sufficient quantity and remain in the body long enough to generate an effective antibody response. To achieve this goal, many vaccines require multiple administrations. Of the 23 vaccines currently in routine use, 20 are delivered by injection and stimulate only systemic immunity. Only polio, typhoid and rotavirus vaccines can be administered orally and induce both a mucosal and a systemic immune response. Both of these vaccines are live, weakened pathogens that localize in the intestines and do not require a separate vaccine delivery system.

Adjuvants: The antigens contained in many injectable vaccines will not produce an immune response sufficient to confer protection against infection and require the use of an adjuvant to sustain the presentation of the antigens to the human immune system. Alum (aluminum hydroxide) is the only adjuvant currently approved by the United States Food and Drug Administration (the "FDA") for commercial use in humans. While alum has gained widespread use, it does not sufficiently enhance the immune response to permit administration of many existing injected vaccines in a single dose. In the case of certain vaccines, such as influenza, alum is ineffective as an adjuvant.

AVANT believes that alum may not prove to be sufficiently effective for use with a number of the new purified recombinant antigens being developed. Further, alum cannot be used for mucosal delivery of vaccines. Accordingly, AVANT believes that there is a significant need for a new adjuvant that is safe, works with a wide variety of antigens, and induces a protective immune response with only one or two injections. These attributes could result in certain benefits, including cost savings and improved patient compliance.

2. Vaccine and Immunotherapeutic Delivery Systems

AVANT is developing a portfolio of proprietary vaccine delivery systems designed to improve the efficacy of existing vaccines, and permit the development of new vaccines and immunotherapeutics for the prevention and/or treatment of infectious diseases and certain cancers.

The following table summarizes AVANT's two main vaccine delivery systems and Therapore(TM):

DELIVERY SYSTEM	COMPOSITION	DELIVERY METHOD	POTENTIAL BENEFITS (1)	STATUS (1)
Adjumer(TM)	Water Soluble Polymer	Injectable	Enhanced systemic immune response; fewer injections	Phase II influenza conducted; analysis of results ongoing

Micromer(TM)	Polymer Microparticles	Intranasal or oral	Systemic and mucosal immune response; no injection	Late state preclinical development
Therapore(TM)	Genetically Engineered Bacterial Protein Vector	Injectable	Enhanced cell-mediated immunity	Preclinical research

(1) The summary information included in the above table is qualified in its entirety by the detailed discussion of each of the vaccine and immunotherapeutic delivery systems that follows, and which appears under "3. Vaccine and Immunotherapeutic Development Programs" below.

3. Vaccine and Immunotherapeutic Development Programs

Adjumer(TM): AVANT is developing Adjumer(TM), a proprietary vaccine delivery system, as an adjuvant to enhance the immune response to injected vaccines. The water soluble nature of Adjumer(TM), which utilizes a polyphosphazene polymer ("PCPP"), facilitates a simple aqueous-based manufacturing process for vaccines, thereby preserving the integrity of the antigen.

In preclinical studies conducted by AVANT, Adjumer(TM) demonstrated sustained presentation of influenza, hepatitis B, HSV2, HIV1 and tetanus antigens to the immune system. In those preclinical studies, single intramuscular injections of Adjumer(TM)-formulated vaccines elicited a higher immune response than both alum-formulated vaccines and non-adjuvanted vaccines as measured by resulting IgG antibody levels. In additional preclinical studies, an Adjumer(TM)-formulated influenza vaccine using lower antigen doses sustained higher antibody levels over a longer time period than both alum-formulated vaccines and non-adjuvanted vaccines. In certain other preclinical studies Adjumer(TM)-formulated vaccines produced an effective immune response in a higher percentage of animals than in animals receiving existing vaccine formulations. Furthermore, in these studies, as well as tests conducted using Adjumer(TM) alone, AVANT observed no material adverse reactions when Adjumer(TM) was administered at effective levels.

Based on these preclinical results, AVANT believes that an Adjumer(TM)-formulated vaccine may provide a number of benefits over existing injected vaccines. These benefits include reducing the number of doses required for an effective immune response, thereby improving compliance; providing cost savings as a result of the reduction in the number of doses and the amount of antigen required; and increasing the time period over which immune protection can be sustained. In addition, based on the results of these preclinical studies, AVANT believes that an Adjumer(TM)-formulated vaccine may be able to induce an immune response in a number of subjects who would not otherwise respond to existing vaccines. The first human clinical trials of a vaccine using Adjumer(TM) as a delivery system commenced in 1996.

AVANT and Pasteur Merieux Connaught ("PMC"), the leading worldwide supplier of influenza vaccine, are currently collaborating on the development of an Adjumer(TM)-formulated vaccine for influenza. Influenza accounts for an average of 20,000 deaths annually in the United States; the greatest number of fatalities occur among the elderly. In preclinical studies conducted by AVANT and PMC, an Adjumer(TM)- formulated influenza vaccine produced a significantly enhanced and longer-lived immune response than one of the influenza vaccines currently on the market. PMC completed Phase I human clinical trials of the Adjumer(TM)-formulated influenza vaccine in France during 1997. A total of 48 young and 41 elderly adults participated in this study, which was designed to measure the safety and level of immune response to the vaccine. Based on the results of the study, which showed the Adjumer(TM)-formulated vaccine was well tolerated and elicited improved responses, a Phase II safety and immunogenicity study was initiated by PMC during 1997. A total of 430 elderly adults participated in the Phase II study, which was conducted in Peru. Preliminary results of the Phase II clinical trial confirmed that the Adjumer(TM)-formulated vaccine was well tolerated. However, results of the Phase II study appear to be inconsistent in certain respects with Phase I results. The degree of improvement in immune responses elicited by the Adjumer(TM) influenza vaccine was less in comparison to the control group than was elicited in the Phase I study. In the Phase II study the control group receiving the unadjuvanted vaccine generated higher immune responses than observed

in the Phase I study control group. AVANT and PMC are currently analyzing and assessing the results of the Phase II study to determine the appropriate next steps to take with the clinical development of the product.

PMC is continuing to investigate the use of Adjumer(TM) in other vaccines. During the fourth quarter of 1998, PMC initiated a Phase I trial of an Adjumer(TM)-formulated vaccine for RSV. Initiation of the trial resulted in a milestone payment by PMC. AVANT understands that PMC plans to initiate a Phase I trial of an Adjumer(TM)-formulated vaccines for Lyme disease in early 1999.

Rotavirus Vaccine: AVANT is also developing a novel vaccine against rotavirus infection. Rotavirus, a major cause of diarrhea and vomiting in infants, affects approximately 80% of the approximately 4 million infants born each year in the United States. As a result, on an annual basis, about 500,000 infants require medical attention and 50,000 are hospitalized. The economic burden in the United States is estimated at over $1 billion in direct and indirect costs. AVANT anticipates that in the United States a vaccine against rotavirus disease will become a universal pediatric vaccine. AVANT has completed Phase I clinical trials of the orally delivered live human rotavirus vaccine selected to elicit a broadly protective immune response to the most prevalent strains of rotavirus. During 1997, AVANT completed a Phase I/II clinical trial designed to define the optimal vaccine dose and optimal age for immunization. Based on the assessment of the safety and immunogenicity of the vaccine, AVANT initiated a Phase II efficacy study in 1997. This trial, conducted at four U.S. medical centers, was designed to examine the vaccine's ability to prevent rotavirus disease and to further study the safety of the vaccine. A total of 215 infants were enrolled in the study and have been immunized with the vaccine. In August 1998, the company announced positive results from this trial. The results showed that approximately 90 percent of the vaccinated infants were protected from rotavirus disease and demonstrated a statistical significance at $p<0.001$. Examination of the safety data revealed only mild transient symptoms in a small number of infants.

As discussed under "F. Collaborative Agreements", subject to the successful completion of the Phase II clinical trial and the development by SmithKline of a viable manufacturing process, SmithKline will assume financial responsibility for all subsequent clinical and development activities.

Micromer(TM): AVANT is conducting ongoing research on Micromer(TM), a proprietary vaccine delivery system designed to facilitate the mucosal (intranasal or oral) delivery of antigens and stimulate both the systemic and mucosal branches of the immune system.

In preclinical studies conducted by AVANT, several Micromer(TM)-formulated antigens delivered intranasally elicited both a mucosal ("IgA") immune response and a systemic ("IgG") immune response. IgA antibodies were detected at all mucosal sites, and the level of IgG antibodies was comparable to the level obtained through Adjumer(TM)-formulated injections of the same antigen. A Micromer(TM)-formulated influenza vaccine required only a single, intranasal dose to provide an immune response sufficient to protect the animals against subsequent infection by the influenza virus. In addition to conducting further research on the Micromer(TM)-formulated influenza vaccine, AVANT has commenced research on additional Micromer(TM)-formulated vaccines. AVANT is currently conducting animal studies in preparation for a Phase I trial of a Micromer(TM)-formulated influenza vaccine.

Therapore(TM): During 1997, AVANT received an exclusive worldwide license to Therapore(TM) from Harvard College. AVANT believes that Therapore(TM) will be the core of a novel technology for the development of immunotherapeutics. AVANT is conducting preclinical research to evaluate this system for the treatment of persistent viral infections, such as Hepatitis B, Hepatitis C and HIV, and certain cancers including melanoma.

Therapore(TM) is composed of two bacterial proteins that in in vitro tests have delivered peptides or proteins into human cells to utilize normal cellular processes to induce potent cell-mediated immune responses. These responses include the generation of long-lived cytotoxic T-lymphocytes ("CTL") and alterations in the amounts of cellular cytokines produced. Both responses are considered necessary for the effective treatment of persistent viral infections and the resolution of certain cancers. Potential products utilizing Therapore(TM) technology could include peptides or proteins from viruses such as Hepatitis B, Hepatitis C and HIV, all of which cause persistent infections, and from a range of cancers, including breast, colon, lung, melanoma and prostate. Each of these indications represents a large market with a need for safe and effective treatments.

Early stage preclinical research studies indicate that Therapore(TM) may be distinguished from other delivery systems. AVANT believes that the therapeutic and preventative potential of Therapore(TM) is significant for two reasons: (i) the targeting of Therapore(TM) is highly efficient, such that in in vitro tests potent cell-mediated immune responses have been induced by the delivery of minute quantities of Therapore(TM) constructs; and (ii) Therapore(TM) has the potential to deliver large peptides and proteins for processing by normal cellular mechanisms, which may permit broad immune coverage in humans. As a result of these characteristics, AVANT believes that Therapore(TM)-delivered antigens will be capable of producing an enhanced cell-mediated response with fewer injections than other products currently under development by AVANT's competitors.

AVANT is currently conducting animal studies in preparation for a Phase I trial of a Therapore(TM)-formulated Melanoma immunotherapeutic vaccine during the second half of 1999.

E. Diagnostic Business

In March 1996, AVANT realigned certain of its operations and sold the operations and research product line of its wholly-owned subsidiary, T Cell Diagnostics, Inc. to Endogen, Inc. ("Endogen") for $3.0 million, while retaining AVANT's TRAx(R) diagnostic product franchise. AVANT received a five year convertible subordinated note for $2.0 million combined with approximately $1.0 million used to repay obligations under AVANT's operating lease. AVANT recognized a gain on this transaction of $0.3 million. On February 10, 1997, AVANT received approximately $1.8 million following the conversion of the remaining balance of the Endogen note into shares of Endogen common stock, which were subsequently sold.

AVANT is currently focusing its efforts on establishing a partnership for the TRAx(R) technology.

F. Collaborative Agreements

Novartis: In October 1997, AVANT announced it had entered into a collaborative agreement with Novartis relating to the development of TP10 for use in xenotransplantation (animal organs into humans) and allotransplantation (human to human organ transplantation). Under the agreement, AVANT will receive annual option fees and supplies of TP10 for clinical trials, the combination of which is valued at up to approximately $5 million, in return for granting Novartis a two-year option to license TP10 with exclusive worldwide (except Japan) marketing rights. Should Novartis exercise its option to license TP10 and continue development, AVANT will receive an equity investment, licensing fees and milestone payments based upon attainment of certain development and regulatory goals, which has an approximate aggregate value of up to $25 million. AVANT may also receive funding for research as well as royalty payments on eventual product sales.

Yamanouchi: AVANT started its complement program in 1988. From 1989 through 1994, TP10 was under development in a joint program pursuant to an agreement with SmithKline and Yamanouchi. During 1994, AVANT and SmithKline negotiated various amendments to the agreement and, in February 1995, the two companies agreed to a mutual termination by which AVANT regained all rights to the program except for co-marketing rights in Japan, which are retained by SmithKline and Yamanouchi.

Pasteur Merieux Connaught: AVANT is a party to two license agreements entered into in December 1994 and August 1995 with PMC relating to Adjumer(TM)- and Micromer(TM)-formulated vaccines, respectively, for the prevention of a variety of infectious diseases. Under the agreements PMC has been granted the exclusive right to make, use and sell Adjumer(TM)- and Micromer(TM)-formulated vaccines for prevention of influenza, Lyme disease and diseases caused by meningococcus and the co-exclusive right (exclusive, except for the right of AVANT or one other person licensed by AVANT) to make, use and sell Adjumer(TM)- and Micromer(TM)-formulated vaccines directed against five other pathogens, including pneumococcus and RSV. The licenses to PMC apply to specified territories, including North and South America, Europe, Africa, Thailand and the countries of the former Soviet Union. AVANT has retained rights to make, use, sell and license Adjumer(TM)- and Micromer(TM)-formulated vaccines against the subject infections in most of the Far East, including China and Japan, subject to certain geographical extension rights available to PMC.

PMC made a $3.0 million equity investment in AVANT in December 1994 upon the execution of the agreement relating to Adjumer(TM). In addition, in connection with this collaboration, in 1996 PMC made milestone payments of $4.5 million to AVANT and an additional equity investment of $1.0 million in AVANT. During 1998, PMC made a further milestone payment to AVANT upon initiation of a Phase I trial using an Adjumer(TM)-formulated vaccine for RSV. Contingent upon achieving certain milestones, PMC has agreed to pay AVANT up to an additional $6.2 million in connection with the development of Adjumer(TM)-formulated vaccines for influenza and Lyme disease. Contingent upon achieving certain milestones, PMC has also agreed to make payments, on a product by product basis with respect to the development of other Adjumer(TM)- and Micromer(TM)-formulated vaccines. PMC is required to fund all costs associated with the development and commercialization, including the costs of clinical trials, of any vaccines it elects to develop utilizing AVANT's technology. In addition, AVANT will be entitled to royalties based on net sales of any vaccine products developed and sold by PMC pursuant thereto.

In connection with its agreement relating to Micromer(TM), PMC sponsored research at AVANT into Micromer(TM)-formulated vaccines directed against influenza and parainfluenza virus ("PIV"). This arrangement, pursuant to which AVANT received $2.5 million, covered a two-year period that ended in 1997.

Under the agreement relating to Adjumer(TM), AVANT was required to use commercially reasonable efforts to establish a process capable of yielding quantities of clinical grade PCPP for use by PMC in clinical studies. AVANT has satisfied this requirement. In addition, AVANT has facilitated the production of commercial grade PCPP in a contractor's current Good Manufacturing Practice ("cGMP") compliant manufacturing facility according to agreed upon specifications. The PMC agreement, while reserving to PMC the right to manufacture PCPP, anticipates that AVANT will supply PCPP under a cost-plus supply agreement.

Pasteur Merieux-Oravax: AVANT has a collaborative arrangement with Pasteur Merieux-Oravax ("PM-O") for the use of its VibrioVec(TM) bacterial delivery system. The agreement grants to PM-O a worldwide license to use VibrioVec(TM) for the delivery of specific H. pylori antigens. A license issue fee as well as research support payments totaling $1.0 million, has been paid to AVANT under this agreement. The agreement also provides for future milestone payments and royalties on net sales of any future products developed by PM-O. An option previously granted to PM-O for the use of PCPP in the delivery of H. pylori vaccines has expired.

SmithKline: During 1997, AVANT entered into an agreement with SmithKline to collaborate on the development and commercialization of AVANT's oral rotavirus vaccine. Rotavirus infection causes acute diarrhea and dehydration in infants. Under the terms of the agreement, SmithKline received an exclusive worldwide license to commercialize AVANT's rotavirus vaccine. AVANT was responsible for continuing the Phase II clinical efficacy study of the rotavirus vaccine which was completed in August 1998. Subject to the development by SmithKline of a viable manufacturing process, SmithKline is required to assume responsibility for all subsequent clinical trials and all other development activities. SmithKline made an initial license payment in 1997 upon execution of the agreement and has agreed to make further payments upon the achievement of certain milestones. In addition, AVANT will be entitled to royalties based on net sales of the rotavirus vaccine.

Heska Corporation: In January 1998, AVANT entered into an agreement with Heska Corporation ("Heska") whereby Heska was granted the right to use PCPP in certain animal health vaccines. The agreement provides for the payment of license fees, milestone and royalties based on net sales of PCPP-formulated animal vaccines.

G. Competition

Competition in the biotechnology and vaccine industries is intense. AVANT faces competition from many companies in the United States and abroad, including a number of large pharmaceutical companies, firms specialized in the development and production of vaccines, adjuvants and vaccine and immunotherapeutic delivery systems and major universities and research institutions. Most of AVANT's competitors have substantially greater resources, more extensive experience in conducting preclinical studies and clinical testing and obtaining regulatory approvals for their products, greater operating experience, greater research and development and marketing capabilities and greater production

capabilities than those of AVANT. There can be no assurance that AVANT's competitors will not develop technologies and products that are safer or more effective than any which are being developed by AVANT or which would render AVANT's technology and products obsolete and noncompetitive, and AVANT's competitors may succeed in obtaining FDA approval for products more rapidly than AVANT. There can be no assurance that the vaccines and immunotherapeutic products under development by AVANT and its collaborators will be able to compete successfully with existing products or products under development by other companies, universities and other institutions or that they will obtain regulatory approval in the United States or elsewhere. AVANT believes that the principal competitive factors in the vaccine and immunotherapeutic market are product quality, measured by efficacy and safety, ease of administration and price.

AVANT's competitive position will also depend upon its ability to attract and retain qualified personnel, obtain patent protection or otherwise develop proprietary products or processes and secure sufficient capital resources for the often lengthy period between technological conception and commercial sales.

H. Manufacturing

AVANT has no manufacturing facilities, no experience in volume manufacturing and plans to rely upon collaborators or contractors to manufacture its proposed products for both clinical and commercial purposes. AVANT believes that there is currently sufficient capacity worldwide for the production of its potential products by AVANT's collaborators or through contract manufacturers.

To date, AVANT has been arranging with contract manufacturers for the manufacture of PCPP in quantities sufficient for preclinical and clinical studies, and for clinical trial supplies of AVANT's rotavirus vaccine candidate. If commercialized, manufacture of the AVANT rotavirus vaccine will be the responsibility of SmithKline, which has received from AVANT a world-wide exclusive license to commercialize this vaccine.

AVANT has a contract for the development and initial supply of the starting materials for PCPP but does not yet have a written contract with a manufacturer for commercial production of PCPP. AVANT has facilitated the production of commercial grade PCPP in a contractor's cGMP manufacturing facility according to agreed upon specifications. The PMC agreement, while reserving to PMC the right to manufacture PCPP, anticipates that AVANT will supply PCPP under a cost-plus supply agreement. AVANT has also entered into an arrangement with an academic institution for process development related to its Therapore(TM) system. The manufacturing processes for AVANT's other vaccine and immunotherapeutic delivery systems and vaccines utilize known technologies. AVANT believes that the products it currently has under development can be readily scaled up to permit manufacture in commercial quantities. However, there can be no assurance that AVANT will not encounter difficulties in scaling up the manufacturing processes.

AVANT intends to establish manufacturing arrangements with manufacturers that comply with the FDA's requirements and other regulatory standards, although there can be no assurance that AVANT will be able to do so. In the future, AVANT may, if it becomes economically attractive to do so, establish its own manufacturing facilities to produce any vaccine products that it may develop. In order for AVANT to establish a manufacturing facility, AVANT will require substantial additional funds and will be required to hire and retain significant additional personnel and comply with the extensive cGMP regulations of the FDA applicable to such facility. The product manufacturing facility would also need to be licensed for the production of vaccines by the FDA.

I. Marketing

Under the terms of existing and future collaborative agreements, AVANT relies and expects to continue to rely on the efforts of its collaborators for the sale and marketing of its products. There can be no assurance that AVANT's collaborators will market vaccine products incorporating AVANT's technologies, or, if marketed, that such efforts will be successful. The failure of AVANT's collaborators to successfully market products would have an adverse effect on AVANT's business.

AVANT has retained, and in the future intends to retain, marketing rights to certain of its vaccine and immunotherapeutic delivery systems and vaccine candidates in selected geographic areas and for specified indications. AVANT intends to seek marketing and distribution agreements and/or co-promotion agreements for the distribution of its products in such territories and for such indications. AVANT believes that these arrangements could enable AVANT to generate a higher level of financial return than might be obtained from early stage licensing and collaboration agreements. AVANT has no marketing and sales staff and limited experience relating to vaccine marketing. If AVANT determines in the future to engage in direct marketing of vaccine products, it will be required to recruit an experienced marketing group and incur significant additional expenditures. There can be no assurance that AVANT will be able to establish a successful marketing force.

J. Patents, Licenses and Proprietary Rights

AVANT's policy is to protect its technology by filing patent applications and obtaining patent rights covering its own technology, both in the United States and in foreign countries. In addition, AVANT has acquired and will seek to acquire as needed or desired, exclusive rights of others through assignment or license to complement its portfolio of patent rights. AVANT also relies on trade secrets, unpatented know-how and technological expertise and innovation to develop and maintain its competitive position.

Patents: The successful development and marketing of products by AVANT will depend in part on its ability to create and maintain intellectual property, including patent rights. AVANT has established a proprietary patent position in the areas of complement inhibitor technology, vaccine technologies and diagnostic technologies, and it is the owner or exclusive licensee of numerous patents and pending applications around the world. Although AVANT continues to pursue patent protection for its products, no assurance can be given that any pending application will issue as a patent, that any issued patent will have a scope that will be of commercial benefit, or that AVANT will be able to successfully enforce its patent position against competitors.

In the area of complement molecules, AVANT is co-owner with The Johns Hopkins University and Brigham & Women's Hospital, whose rights AVANT has exclusively licensed, of patents and application covering inventions relating to complement receptor type 1 (CR1). These rights are based in part on the work of Dr. Douglas Fearon and include U.S. and foreign patents which claim nucleic acid sequences encoding CR1, sCR1 and active fragments; purification methods; and therapeutic uses of sCR1. AVANT also owns or has rights to a number of other issued patents and patent applications relating to sCR1, sCR1sLe(x) and other complement inhibitor molecules and their uses.

In April 1996, AVANT announced that it had licensed portions of its patent and technology rights regarding CR1 to CytoTherapeutics, Inc. ("CytoTherapeutics") for use in protecting CytoTherapeutics' proprietary cell-encapsulation products for the delivery of therapeutic substances to the central nervous system.

In December 1996, AVANT amended its agreement with Astra to transfer certain of its patent rights and licenses to the TCAR technology to Astra. This transfer includes patent applications which have resulted to date in U.S. patents covering the DNA, proteins, protein fragments and antibodies relating to the Alpha TCAR and the DNA, full-length proteins and antibodies relating to Beta TCAR, and two European patents covering Beta TCAR inventions. In addition, AVANT has transferred recent filings on T cell antigen receptor inventions resulting from the partnership with Astra.

In the area of diagnostics, AVANT is the owner of several patents relating to TRAx(R) CD4 and CD8 and other applications of the TRAx(R) product technologies. The first U.S. patent covering the TRAx(R) CD4 and CD8 products issued on June 11, 1996. In February 1998, AVANT received a notice of allowance of claims for the U.S. patent and Trademark Office for a patent application covering the TRAx(R) Test Kit.

In the area of vaccine technology, AVANT owns issued U.S. patents and corresponding foreign applications directed to the use of vaccines incorporating AVANT's Adjumer(TM) vaccine delivery technology, and directed to the use of vaccines incorporating AVANT's Micromer(TM) vaccine delivery technology. Further, AVANT owns and has licensed other U.S. patents and patent applications, and corresponding foreign applications, directed to technology that may be useful for AVANT's Micromer(TM) and Adjumer(TM) vaccine delivery systems. AVANT has an exclusive license to a United States

patent application, and corresponding foreign applications, directed to a vector construct that is used in AVANT's VibrioVec(TM) vaccine delivery system; AVANT has an exclusive license to an issued U.S. patent directed to a rotavirus strain antigen which forms the basis of AVANT's rotavirus vaccine; and AVANT has an exclusive license to a U.S. patent application, and corresponding foreign applications, directed to a defective HSV2 virus for use in AVANT's vaccine directed against genital herpes. AVANT also has an exclusive license to U.S. patent applications directed to technology that may be useful for AVANT's Therapore(TM) system. AVANT has also filed patent applications in the U.S. and selected foreign countries relating to control of CETP activity through vaccination.

There can be no assurance that patent applications owned by or licensed to AVANT will result in granted patents or that, if granted, the resultant patents will afford protection against competitors with similar technology. It is also possible that third parties may obtain patent or other proprietary rights that may be necessary or useful to AVANT. In cases where third parties are first to invent a particular product or technology, it is possible that those parties will obtain patents that will be sufficiently broad to prevent AVANT from using certain technology or from further developing or commercializing certain vaccine and immunotherapeutic systems and vaccine candidates. If licenses from third parties are necessary but cannot be obtained, commercialization of the covered products might be delayed or prevented.

Although a patent has a statutory presumption of validity in the United States, the issuance of a patent is not conclusive as to validity or as to the enforceable scope of the patent claims. Thus, there can be no assurance that AVANT's issued patents or any patents subsequently issued to or licensed by AVANT will not be successfully challenged in the future. The validity or enforceability of a patent after its issuance by the Patent and Trademark Office can be challenged in litigation. If the outcome of the litigation is adverse to the owner of the patent, third parties may then be able to use the invention covered by the patent without payment. There can be no assurance that AVANT's patents will not be infringed or that the coverage of its patents will not be successfully avoided by competitors through design innovation.

AVANT is aware that others, including universities and companies, have filed patent applications and have been granted patents in the United States and other countries which claim subject matter potentially useful or necessary to the commercialization of AVANT's products. The ultimate scope and validity of existing or future patents which have been or may be granted to third parties, and the availability and cost of acquiring rights in those patents necessary to the manufacture, use or sale of AVANT's products presently cannot be determined by AVANT.

AVANT uses a mutated Vibrio cholerae in its VibrioVec(TM) vaccine delivery system. AVANT is aware of an issued U.S. patent which claims a culture of mutated Vibrio cholerae. AVANT believes that only one claim (the "Claim") of the patent may be pertinent to the company's VibrioVec(TM) system. The remaining claims of the patent cover other cultures which AVANT believes are not pertinent to VibrioVec(TM). AVANT has received an opinion of counsel from Fish & Richardson, P.C. that, based on the analysis set forth in their opinion and the facts known to them, the Claim is invalid. It should be noted that a party challenging validity of a patent has the burden of proving invalidity and that the outcome of any litigation cannot be predicted with certainty. Accordingly, there can be no assurance that, if litigated, a court would conclude that the Claim is invalid.

In addition, AVANT is aware of a foreign patent with claims that could conflict with AVANT's vaccine candidates and vaccine delivery systems. AVANT believes that the relevant claims under this patent do not extend to or restrict AVANT's activities, however there can be no assurance that a foreign court would reach the same conclusion. AVANT is also aware of an issued U.S. patent relating to the same technology covered by a patent application to which it has been granted an exclusive license and therefore anticipates that it will be involved in an interference proceeding prior to marketing its herpes vaccine.

In addition to the patents referred to in the previous two paragraphs, there may be other patent applications and issued patents belonging to competitors that may require AVANT to alter its vaccine candidates and vaccine and immunotherapeutic delivery systems, pay licensing fees or cease certain activities. If the Company's product candidates conflict with patents that have been or may be granted to competitors, universities or others, the patent owners could bring legal actions against AVANT claiming damages and seeking to enjoin manufacturing and marketing of the patented products. If any such actions are successful, in addition to any potential liability for damages, AVANT could be required to obtain a license in order to continue to manufacture or market the affected products. There can be no assurance that AVANT would prevail in any such action or that any license required under any such third party patent would be made

available on acceptable terms or at all. AVANT believes that there may be significant litigation in the biotechnology and vaccine industries regarding patent and other intellectual property rights. If AVANT becomes involved in such litigation, it could consume substantial resources.

Licenses: AVANT has entered into several significant license agreements relating to technology that is being developed by AVANT and/or its collaborators, including licenses from: Massachusetts Institute of Technology covering certain proprietary technologies for vaccine delivery related to PCPP microparticles; Penn State Research Foundation covering the production of polyphosphazene polymer; Harvard College relating to proprietary technology involving genetically altered Vibrio and Salmonella typhi strains; Cincinnati Children's Hospital involving proprietary rights and technologies relating to an attenuated rotavirus strain for a rotavirus vaccine; Harvard College and the Dana Farber Cancer Institute relating to a genetically-altered HSV2 virus for use in a genital herpes virus vaccine; and Harvard College for the proprietary technology related to Therapore(TM), a novel immunotherapy delivery system to be developed for delivery of products for the treatment of persistent viral infections and certain cancers. In general, these institutions have granted AVANT an exclusive worldwide license (with right to sublicense) to make, use and sell products embodying the licensed technology, subject to the reservation by the licensor of a non-exclusive right to use the technologies for non-commercial purposes. Generally, the term of each license is through the expiration of the last of the patents issued with respect to the technologies covered by the license. AVANT has generally agreed to use reasonable efforts to develop and commercialize licensed products and to achieve certain milestones and pay license fees, milestone payments and royalties based on the net sales of the licensed products or to pay a percentage of sublicense income. If AVANT breaches its obligations, the licensor has the right to terminate the license, and, in some cases, convert the license to a non-exclusive license.

Proprietary Rights: AVANT also relies on unpatented technology, trade secrets and confidential information, and no assurance can be given that others will not independently develop substantially equivalent information and techniques or otherwise gain access to AVANT's know-how and information, or that AVANT can meaningfully protect its rights in such unpatented technology, trade secrets and information. AVANT requires each of its employees, consultants and advisors to execute a confidentiality agreement at the commencement of an employment or consulting relationship with AVANT. The agreements generally provide that all inventions conceived by the individual in the course of employment or in providing services to AVANT and all confidential information developed by, or made known to, the individual during the term of the relationship shall be the exclusive property of AVANT and shall be kept confidential and not disclosed to third parties except in limited specified circumstances. There can be no assurance, however, that these agreements will provide meaningful protection for AVANT's information in the event of unauthorized use or disclosure of such confidential information.

K. Government Regulation

AVANT's activities and products are significantly regulated by a number of governmental entities, including the FDA in the United States and by comparable authorities in other countries. These entities regulate, among other things, the manufacture, testing, safety, effectiveness, labeling, documentation, advertising and sale of AVANT's products. Product development within this regulatory framework takes a number of years and involves the expenditure of substantial resources. Many products that initially appear promising ultimately do not reach the market because they are found to be unsafe or ineffective when tested.

In the United States, vaccines and immunotherapeutics for human use are subject to FDA approval as "biologics" under the Public Health Service Act and "drugs" under the Federal Food, Drug and Cosmetic Act. The steps required before a new product can be commercialized include: preclinical studies in animals, clinical trials in humans to determine safety and efficacy and FDA approval of the product for commercial sale.

The FDA provides that human clinical trials may begin thirty (30) days after receipt and review of an Investigational New Drug ("IND") application, unless the FDA requests additional information or changes to the study protocol within that period. Authorization to conduct a clinical trial in no way assures that the FDA will ultimately approve the product. Clinical trials are usually conducted in three sequential phases; in a Phase I trial, the product is given to a small number of healthy volunteers to test for safety (adverse effects). Phase II trials are conducted on a limited group of the target patient population; safety, optimal dosage and efficacy are studied. A Phase III trial is performed in a large patient population over a wide geographic area to prove that significant efficacy exists. The FDA has ongoing oversight over all these trials

and can order a temporary or permanent discontinuation if that action is warranted. Such an action could materially and adversely affect AVANT.

The results of the clinical trials and all supporting data are submitted to the FDA for approval. A Biologics License Application ("BLA") is submitted for a biologic product; a New Drug Application (an "NDA") for a drug product. The interval between IND filing and BLA/NDA filing is usually at least several years due to the length of the clinical trials; and the BLA/NDA review process can take over a year. During this time the FDA may request further testing, additional trials or may turn down the application. Even with approval, the FDA frequently requires post-marketing safety studies (known as Phase IV trials) to be performed.

The FDA requires that the manufacturing facility that produces a licensed product meet certain standards, undergo an inspection and obtain an establishment license prior to commercial marketing.

The Advisory Committee on Immunization Practices ("ACIP") of the CDC has a role in setting the public market in the United States for the vaccine products AVANT intends to develop. The ACIP makes recommendations on the appropriate use of vaccines and related products and the CDC develops epidemiologic data relevant to vaccine requirements and usage.

To market its products abroad, AVANT is subject to varying foreign regulatory requirements. Although international efforts are being made to harmonize these requirements, applications must currently be made in each country. The data necessary and the review time varies significantly from one country to another. Approval by the FDA does not ensure approval by the regulatory bodies of other countries.

AVANT's collaborators are subject to all of the above-described regulations in connection with the commercialization of products utilizing AVANT's technology.

L. Product Liability

The testing and marketing of vaccines and immunotherapeutics entail an inherent risk of product liability attributable to unwanted and potentially serious health effects. If and when AVANT manufactures vaccines which are recommended for routine administration to children, AVANT will be required to participate in the National Vaccine Injury Compensation Program. This program compensates children having adverse reactions to certain routine childhood immunizations with funds collected through an excise tax from the manufacturers of these vaccines.

AVANT has clinical trial liability insurance coverage in the amount of $3 million. However, there can be no assurance that such insurance coverage is or will continue to be adequate or available. AVANT intends to seek product liability insurance coverage prior to commercialization of its product candidates but there can be no assurance that insurance will be available at all or in sufficient amounts to protect AVANT at a reasonable cost.

M. Employees; Scientific Consultants

As of March 1, 1999, the Company employed 53 full time persons, 20 of whom have doctoral degrees. Of these employees, 43 were engaged in or directly supported research and development.

AVANT has also retained a number of scientific consultants and advisors in various fields and has entered into consulting agreements with each of them. These consultants include the following members of the Scientific Advisory Board: Dr. Mark Davis, Stanford University; Dr. Tak Mak, Ontario Cancer Institute; Dr. Peter Ward, University of Michigan School of Medicine; Dr. Hans Wigzell, Karolinska Institute; Dr. Peter Henson, National Jewish Center for Immunology and Respiratory Medicine; Dr. Peter Libby, Brigham and Women's Hospital; and Dr. Robert Langer, Massachusetts Institute of Technology.

Item 2. PROPERTIES

The Company leases approximately 54,000 square feet of laboratory and office space in Needham, Massachusetts, of which it subleases approximately 13,000 square feet of excess laboratory and office space to a tenant and an additional 4,000 square feet of excess office space to a second tenant. The lease has an initial term of six years which expires in April 2002. Under the lease agreement, the Company is obligated to pay a base annual rent of $756,400 until the end of the initial term. The sublease relating to the 13,000 square feet of excess space has an initial term of four years which expires in April 2000. Under the sublease agreement, the Company will receive base annual subrental income of $133,600 until the end of the initial term. The sublease relating to the 4,000 square feet of excess space has an initial term of eighteen months which expires October 1999. Under the sublease agreement, the Company will receive base annual subrental income of $88,000 until the end of the initial term. Aggregate net base rental payments for the years ended December 31, 1998 and 1997 for this facility were $662,000 and $594,400, respectively.

The Company also leases approximately 17,800 square feet of laboratory and office space in Cambridge, Massachusetts. The lease has a five year term, which commenced on December 1, 1996. Under the lease agreement, the Company is obligated to pay a base annual rent of $293,700 until the end of the lease term. Effective February 1, 1999, the Company sublet the entire Cambridge, Massachusetts facility through the end of the lease term. Under the sublease agreement, the Company will receive base annual subrental income of $431,700 of which approximately $36,000 will be payable to the landlord as additional rent.

Item 3. LEGAL PROCEEDINGS

AVANT is not a party to any legal proceedings.

Item 4. SUBMISSION OF MATTERS TO A VOTE OF SECURITIES HOLDERS

None.

PART II

Item 5. MARKET FOR REGISTRANT'S COMMON EQUITY AND RELATED STOCKHOLDER MATTERS

AVANT's Common Stock began trading on the Nasdaq National Market (the "Nasdaq") under the symbol "AVAN" on August 24, 1998. Prior to that date, the Company was traded on the Nasdaq under the symbol "TCEL". The following table sets forth for the periods indicated the high and low closing sales prices for the Company's common stock as reported by Nasdaq.

Fiscal Period	High	Low
Year Ended December 31, 1997		
1Q (Jan. 1 - March 31, 1997)	$2.38	$1.47
2Q (April 1 - June 30, 1997)	2.09	1.28
3Q (July 1 - Sep. 30, 1997)	2.34	1.38
4Q (Oct. 1 - Dec. 31, 1997)	3.16	1.75
Year Ended December 31, 1998		
1Q (Jan. 1- March 31, 1998)	$2.94	$1.81
2Q (April 1 - June 30, 1998	4.50	2.38
3Q (July 1 - Sept. 30, 1998)	2.81	1.19
4Q (Oct. 1 - Dec. 31, 1998)	1.78	1.06

As of March 1, 1999, there were approximately 716 shareholders of record of the Company's common stock. The price of the common stock was $1.50 as of the close of the market on March 1, 1999. The Company has not paid any dividends on its common stock since its inception and does not intend to pay any dividends in the foreseeable future. Declaration of dividends will depend, among other things, upon the operating and future earnings of the Company, the capital requirements of the Company and general business conditions.

Item 6. SELECTED FINANCIAL DATA

The selected consolidated financial data presented below for the years ended December 31, 1998, 1997, 1996, 1995 and 1994 have been derived from the audited consolidated financial statements of the Company. The results of operations for 1998 include the operating results of VRI from the date of acquisition, August 21, 1998 through December 31, 1998 (see Item 7, "Management's Discussion and Analysis of Financial Condition and Results of Operations"). All amounts are in thousands except per share data.

CONSOLIDATED STATEMENTS OF OPERATIONS DATA	Year Ended December 31,				
	1998	1997	1996	1995	1994
OPERATING REVENUE:					
Product Sales, Product Development and Distribution Agreements	$ 2,150	$ 1,192	$ 1,115	$ 3,963	$ 6,968
OPERATING EXPENSE:					
Research and Development	5,703	5,257	6,036	8,005	8,697
Charge for Purchased In-Process Research & Development	44,630	--	--	--	--
Other Operating Expense	4,377	3,494	6,832	7,821	9,365
Total Operating Expense	54,710	8,751	12,868	15,826	18,062
Non-Operating Income (Expense), Net	760	(5,549)	963	3,605	(490)
Net Loss	$(51,800)	$ (13,108)	$ (10,790)	$ (8,258)	$(11,584)
Basic and Diluted Net Loss Per Common Share	$ (1.56)	$ (0.52)	$ (0.50)	$ (0.47)	$ (0.68)
Weighted Average Common Shares Outstanding	33,177	25,140	21,693	17,482	17,053

CONSOLIDATED BALANCE SHEET DATA	December 31,				
	1998	1997	1996	1995	1994
Working Capital	$ 12,298	$ 4,629	$ 11,673	$ 11,208	$ 15,027
Total Assets	22,650	9,827	17,224	18,532	20,685
Other Long Term Obligations	563	750	--	182	500
Accumulated Deficit	(122,036)	(70,237)	(57,129)	(46,339)	(38,081)
Total Stockholders' Equity	18,770	6,316	15,619	16,000	17,586

Item 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

In January 1997, the Securities and Exchange Commission issued Financial Reporting Release No. 48, which expands the disclosure requirements for certain derivatives and other financial instruments. The Company does not utilize derivative financial instruments. See Notes 1 and 2 to the Consolidated Financials Statements for a description of the Company's use of other financial instruments.

Safe Harbor Statement under the Private Securities Litigation Reform Act of 1995: Statements contained in the following, Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations, that are not historical facts may be forward-looking statements that are subject to a variety of risks and uncertainties. There are a number of important factors that could cause the actual results to differ materially from those expressed in any forward-looking statements made by the Company. These factors include, but are not limited to: (i) the Company's ability to successfully complete product research and development, including pre-clinical and clinical studies, and commercialization; (ii) the Company's ability to obtain substantial additional funding; (iii) the Company's ability to obtain required governmental approvals; (iv) the Company's ability to attract manufacturing, sales, distribution and marketing partners and other strategic alliances; and (v) the Company's ability to develop and commercialize its products before its competitors.

Item 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

AVANT Immunotherapeutics' (f/k/a "T Cell Sciences, Inc.," herein referred to as the "Company") principle activity since its inception has been research and product development conducted on its own behalf, as well as through joint development programs with several pharmaceutical companies. The Company was incorporated in the State of Delaware in December 1983.

A significant portion of the Company's revenue has consisted of payments by others to fund sponsored research, milestone payments under joint development agreements, payments for material produced for preclinical studies, and sales of test kits and antibodies. Certain portions of the collaborative payments are received in advance, recorded as deferred revenue and recognized when earned in later periods.

Inflation and changing prices have not had a significant effect on continuing operations and are not expected to have any in the near future.

OVERVIEW

The Company is engaged in the discovery, development and commercialization of products that harness the human immune response to prevent and treat disease. The Company's products derive from a broad set of complementary technologies with the ability to inhibit the complement system, regulate T and B cell activity, and enable the creation and delivery of preventative and therapeutic vaccines. The Company is using these technologies to develop vaccines and immunotherapeutics that prevent or treat disease caused by infectious organisms, and drugs and treatment vaccines that modify undesirable activity by the body's own proteins or cells.

On August 21, 1998 the Company acquired Virus Research Institute, Inc. ("VRI"), a company engaged in the discovery and development of systems for the delivery of vaccines and immunotherapeutics, and novel vaccines for adults and children. Pursuant to an Agreement and Plan of Merger dated as of May 12, 1998 VRI became a wholly owned subsidiary of the Company. The Company issued 14,036,400 shares of AVANT common stock and warrants to purchase 1,811,200 shares of AVANT common stock in exchange for all of the outstanding common stock of VRI, on the basis of 1.55 shares of AVANT's common stock and .20 of an AVANT warrant for one share of VRI common stock.

NEW DEVELOPMENTS

Preliminary results from a Phase I clinical trial of the humanized monoclonal antibody, ATM027, in patients with multiple sclerosis became available in the first quarter of 1998. ATM027 is one of the products derived from the Company's T Cell Antigen Receptor (TCAR) program, now under development by Astra AB. The results from the Phase I clinical trial show an effect on the target cells with no serious adverse effects in the study to date. Astra initiated a Phase II clinical trial for ATM027 in patients with multiple sclerosis in 1998.

Positive Phase I/II results of the Company's lead drug candidate, TP10, in patients undergoing lung transplantation were presented by the Company in April 1998. Results in these patients showed that TP10 therapy appears safe and well tolerated and demonstrated significant efficacy. TP10 is the Company's product name for sCR1, a therapeutic compound which inhibits the complement system, a key triggering mechanism for the inflammatory response. In October 1997 the

Company entered into an agreement with Novartis Pharma AG, Basel, Switzerland ("Novartis") relating to the development of TP10 for use in xenotransplantation (animal organs into humans) and allotransplantation (human organs into humans). The Company granted Novartis a two-year option to license TP10 with exclusive worldwide marketing rights (except Japan) in the fields of xenotransplantation and allotransplantation. The Company received its second option fee payment in November 1998 which initiates year two of the option agreement. If Novartis exercises its option to license TP10, it will provide licensing fees, an equity investment and the Company will be entitled to milestone payments and royalties on product sales.

The Company announced positive results of its Phase II efficacy study of its vaccine for the prevention of rotavirus disease in infants in August 1998. Rotavirus is a major cause of acute diarrhea and dehydration in infants for which there are currently no approved vaccines, although several are under development. The rotavirus vaccine is being developed and commercialized in collaboration with SmithKline Beecham ("SmithKline"). Following successful completion of the Phase II trial, SmithKline will assume responsibility for and fund all subsequent clinical and other development activities. The Company will be entitled to receive milestone payments and royalties on vaccine sales under the agreement which grants SmithKline exclusive worldwide marketing rights to the rotavirus vaccine.

The Company received a milestone payment of $600,000 from the Company's collaborator Pasteur Merieux Connaught ("PMC") in the fourth quarter of 1998. The Company is a party to two license agreements with PMC pursuant to which PMC has been granted the exclusive and co-exclusive right (exclusive, except for the right of the Company or one other person licensed by the Company) to make, use and sell certain of the Company's vaccines. The milestone payment relates to a Phase I clinical trial using the Company's Adjumer(TM)-formulated RSV vaccine initiated by PMC in 1998.

RESULTS OF OPERATIONS

The Company reported a net loss of $51,799,700, or $1.56 per share, for the year ended December 31, 1998, compared to a net loss of $13,108,000, or $.52 per share, for the year ended December 31, 1997 and a net loss of $10,790,100, or $.50 per share, for the year ended December 31, 1996. The net loss for the year ended December 31, 1998, includes a charge of $44,630,000 for purchased in-process research and development related to the acquisition of VRI in August 1998. The net loss for the year ended December 31, 1997 includes a charge of $6,108,800 for the settlement of the Company's litigation with its former landlord and the landlord's mortgagee. The net loss for the year ended December 31, 1996 includes a charge to earnings of $1,751,600 for the write-off of certain capitalized patent costs relating to the Company's TCAR program and a $425,300 charge resulting from a severance agreement with the Company's former president and chief executive officer. Excluding the charge for purchased in-process research and development in 1998, the charge for the settlement of the Company's litigation in 1997 and the charges for the write-off of certain capitalized patent costs and the severance agreement in 1996, the net loss for 1998 increased 2.4% to $7,169,700, or $.22 per share, compared to $6,999,200, or $.28 per share, for 1997 and the net loss for 1997 decreased 18.7% from $8,613,200, or $.40 per share in 1996. The weighted average common shares outstanding used to calculate the net loss per common share was 33,177,200 in 1998, 25,139,900 in 1997 and 21,693,400 in 1996.

Operating Revenue

Total operating revenue increased $958,300, or 80.4%, to $2,150,400 in 1998 from $1,192,100 in 1997 and increased $77,600, or 6.9%, in 1997 from $1,114,500 in 1996.

Product development and licensing revenue increased $946,900 in 1998, or 82.5%, to $2,094,500 from $1,147,600 in 1997. Product development and licensing revenue in 1998 consisted primarily of a $1,000,000 nonrefundable option fee associated with the Company's agreement with Novartis, a milestone payment of $600,000 from PMC and $494,500 received in connection with the Company's Small Business Innovation Research grants ("SBIR"). In 1997, the Company recognized $250,000 of a nonrefundable option fee from Novartis in product development and licensing revenue, milestone payments totaling $650,000 from Astra and $247,600 received in connection with the Company's SBIR grants. Product development and licensing revenue increased $556,400, or 94.1%, in 1997 from $591,200 in 1996. Product development and licensing revenue in 1996 consisted of $453,300 of TCAR project funding from Astra and $37,900 received in connection with the Company's SBIR grants.

Product sales for 1998 and 1997 totaled $55,900 and $44,500, respectively, and were derived from sales of the Company's TRAx(R) test kits. Product sales of $523,300 in 1996 included sales of the Company's TRAx(R) test kits for the full year combined with sales of research products prior to the sale of the research products and operations of the Company's wholly-owned subsidiary, T Cell Diagnostic, Inc. ("TCD"), in March 1996.

Operating Expense

Operating expense of $54,709,900 for 1998 included a charge of $44,630,000 for purchased in-process research and development in connection with the acquisition of VRI in August 1998. Excluding the purchased in-process research and development charge, operating expense increased $1,329,100, or 15.2%, to $10,079,900 for 1998 compared to $8,750,800 for 1997 and decreased $4,117,000, or 32.0%, in 1997 from $12,867,800 in 1996. The increase in operating expense for 1998 compared to 1997 is primarily due to four months of operations of VRI combined with goodwill amortization expense of $546,400 and the write-off of certain capitalized patent costs relating to the Company's TRAx(R) technology. The decrease in operating expense for 1997 compared to 1996 is primarily due to the charges for the write-off of certain capitalized patent costs and severance agreement recognized in 1996, totaling $2,176,900, and lower legal costs as a result of the settlement of the Company's litigation combined with lower costs associated with Phase I and Phase I/II clinical trials initiated in 1996.

Research and development expense increased $446,200, or 8.5% in 1998, to $5,703,100 from $5,256,900 in 1997. The increase in 1998 compared to 1997 is primarily due to four months of operations of VRI, partially offset by costs associated with Phase I and Phase I/II clinical trials of TP10 ongoing in 1997. Research and development expense decreased $779,600, or 12.9%, in 1997 from $6,036,500 in 1996. The decrease is primarily due to lower staff costs combined with a reduction in costs associated with Phase I and Phase I/II clinical trials of TP10 initiated in 1996. Included in research and development expense for 1996 is two months of TCD operations prior to the sale of the research products and operations of TCD in March 1996.

General and administrative expense increased $335,200, or 9.7%, to $3,808,100 in 1998 compared to $3,472,900 in 1997. Included in general and administrative expense is a charge of $294,500 for the write-off of certain capitalized patent costs associated with the Company's TRAx(R) technology. Reductions in legal costs in 1998 primarily due to the settlement of the Company's litigation in 1997 and lower consulting costs in 1998 compared to 1997 were offset by certain general and administrative costs associated with four months of operations of VRI. General and administrative expense decreased $2,999,700, or 46.3%, in 1997 compared to $6,472,600 in 1996. The decrease is primarily due to a $425,300 charge resulting from a severance agreement and a $1,751,600 write-off of certain capitalized patent costs relating to the Company's TCAR technology in 1996. Lower legal costs in 1997 and reduced license fees resulting from the transfer to Astra of certain of the Company's rights and responsibilities to the TCAR technology in 1997 compared to 1996 also contributed to the decrease in general and administrative expense in 1997 compared to 1996. In addition, included in general and administrative expense for 1996 is two months of TCD operations prior to the sale of the research products and operations of TCD in March 1996.

Non-Operating Income and Expense

Non-operating income for 1998 was $759,800 compared to non-operating expense for 1997 of $5,549,300. Excluding a charge of $6,108,800 relating to the settlement of the Company's then outstanding litigation in the third quarter of 1997, non-operating income increased $200,300, or 35.8%, to $759,800 for 1998 compared to $559,500 for 1997 and decreased $403,700, or 41.9% in 1997 from $963,200 in 1996. Interest income decreased $5,400, or 0.9%, to $571,900 for 1998 compared to $577,300 for 1997, and decreased $102,900, or 15.1%, in 1997 compared to $680,200 in 1996. The decreases in interest is primarily due to lower cash balances combined with lower interest rates in 1998 and 1997. In May 1998, the Company used cash as collateral for a $750,000 note due November 15, 1999 issued in connection with a settlement agreement with its former landlord and the landlord's mortgagee. In accordance with the settlement agreement, 66,250 shares of the Company's common stock issued to secure the note were returned to the Company. The common stock was valued at $165,600 as of October 31, 1997 and its return is included in non operating-income in 1998. In 1996, non-operating expense included a $283,000 gain recognized from the sale of the research products and operations of TCD in March 1996.

LIQUIDITY AND CAPITAL RESOURCES

The Company's cash, cash equivalents and marketable securities at December 31, 1998 was $13,840,300 compared to $6,436,300 at December 31, 1997. Cash used in operations was $8,852,000 in 1998 compared to $7,695,400 in 1997 and $9,675,800 in 1996.

In March 1998, the Company completed a private placement of approximately 2,043,500 shares of common stock to institutional investors at a price of $1.90 per share. Net proceeds from the common stock issuance totaled approximately $3,699,800.

In November 1997, the Company reached a settlement of the litigation with its former landlord and the landlord's mortgagee. As part of the settlement, the Company agreed to pay $858,800 in cash on November 17, 1997 and issue a total of 1,500,000 shares of its common stock. In addition, the Company signed a note for $750,000, due on November 16, 1998 secured by $750,000 cash and a note for $750,000 due November 15, 1999 secured by 132,500 shares of common stock. The total settlement, valued at $6,108,800, is comprised of the cash and notes totaling $2,358,800 and common stock valued at $3,750,000 as of October 31, 1997. The common stock is subject to restrictions on transfer in accordance with the settlement agreement. The settlement agreement also provides for certain registration rights for the shares of common stock to become effective no later than September 30, 1998. Upon such registration, however, the settlement agreement limits the number of shares that may be sold over a given period of time. In May 1998, in accordance with the settlement agreement, the Company elected to secure the note for $750,000 due November 15, 1999 by $750,000 cash in exchange for the return of 66,250 shares or one half of the common stock originally used to secure the note. The cash collateral is recorded as short-term restricted cash at December 31, 1998.

In March 1996, the Company received from Endogen, Inc. a convertible subordinated note in the principal amount of $2,003,000 in connection with the sale of the research products and operations of TCD to Endogen. Pursuant to the terms of the note, on February 10, 1997 the Company converted the $1,802,700 outstanding principal balance of the note into shares of common stock of Endogen which the Company subsequently sold. The realized gain on the stock sale was not significant.

During 1994, the Company entered into an agreement providing the Company with the right to lease up to $2,000,000 of equipment for up to a five-year term. The lease arrangement contains certain restrictive covenants, determined at the end of each fiscal quarter which, for the quarter ended September 30, 1995 included a minimum cash, cash equivalents and short-term investments balance of $10,000,000. At September 30, 1995 the Company's cash, cash equivalents and short-term investment balance was below $10,000,000. As a result, in accordance with the lease agreement, the Company pledged as collateral cash equal to the amount outstanding on the lease which is to remain in a certificate of deposit until the end of the lease, or as otherwise agreed by the lessor and the Company. At December 31, 1998, the Company had $365,000 pledged as collateral recorded as long-term restricted cash. In March 1996, the Company repaid approximately $980,000 of the outstanding obligation under the lease in conjunction with the sale of the research products and operations of its subsidiary.

The Company believes that cash inflows from existing SBIR grants and collaborations, interest income on invested funds and its current cash, cash equivalents and marketable securities, net of restricted amounts, will be sufficient to meet estimated working capital requirements and fund operations beyond December 31, 1999 and into the first half of 2000. The working capital requirements of the Company are dependent on several factors including, but not limited to, the costs associated with research and development programs, preclinical and clinical studies and the scope of collaborative arrangements. During 1999, the Company expects to take steps to raise additional capital including, but not limited to, licensing of technology programs with existing or new collaborative partners, possible business combinations, or issuance of common stock via private placement and public offering.

The statements in the following section include the "Year 2000 Readiness Disclosure" within the meaning of the Year 2000 Information and Readiness Disclosure Act.

YEAR 2000

This section contains certain statements that are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. The Company's Year 2000 compliance, and the eventual effects of the Year 2000 on the Company may be materially different than currently projected. This may be due to, among other things, delays in the implementation of the Company's Year 2000 Plan and the failure of key third parties with whom the Company has a significant business relationship to achieve Year 2000 compliance.

The "Year 2000" issue affects computer systems that have date sensitive programs that may not properly recognize the year 2000. Systems that do not properly recognize such information could generate data or cause a system to fail, resulting in business interruption. The Company is currently developing a plan to provide assurances that its computer systems are Year 2000 compliant, and expects full compliance by the end of 1999. Given the relatively small size of the Company's internal systems and the relatively new hardware, software and operating systems, management does not anticipate any significant delays in becoming Year 2000 compliant. Further, management believes at present that the costs associated with modifications to become Year 2000 compliant will be immaterial to the Company's continued internal operations.

The Year 2000 issue is expected to affect the systems of various entities with which the Company interacts, including the Company's research and development partners, suppliers and vendors. The Company's assessment of third party anticipated risks and responses to those risks is not complete. There can be no assurance that the systems of other companies on which the Company's system rely will be timely converted, or that a failure by another company's system to be Year 2000 compliant would not have a material adverse affect on the Company's business, operating results and financial condition.

The Company does not have a contingency plan in the event Year 2000 compliance cannot be achieved in a timely manner. A contingency plan will be developed upon completion of the Company's Year 2000 compliance assessment.

Item 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

Report of Independent Accountants

To The Board of Directors and Shareholders of
AVANT Immunotherapeutics, Inc.

In our opinion, the accompanying consolidated balance sheets and the related consolidated statements of income and retained earnings and of cash flows present fairly, in all material respects, the financial position of AVANT Immunotherapeutics, Inc. and its subsidiaries at December 31, 1998 and 1997, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 1998, in conformity with generally accepted accounting principles. These financial statements are the responsibility of the Company's management; our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits of these statements in accordance with generally accepted auditing standards which require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for the opinion expressed above.

/s/ PricewaterhouseCoopers LLP
Boston, Massachusetts
March 1, 1999

CONSOLIDATED BALANCE SHEET

	December 31, 1998	December 31, 1997
ASSETS		
Current Assets:		
Cash and Cash Equivalents	$ 8,937,200	$ 6,436,300
Marketable Securities	4,903,100	--
Current Portion Restricted Cash	750,000	750,000
Current Portion Lease Receivable	395,700	--
Prepaid and Other Current Assets, Net	629,700	203,300
Total Current Assets	15,615,700	7,389,600
Property and Equipment, Net	1,111,400	364,500
Restricted Cash	365,000	525,000
Long-Term Lease Receivable	827,300	--
Other Assets	4,730,700	1,547,500
Total Assets	$ 22,650,100	$ 9,826,600
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current Liabilities:		
Accounts Payable	$ 363,700	$ 201,200
Accrued Expenses	1,184,700	1,059,900
Deferred Revenue	750,000	750,000
Short-Term Note Payable	750,000	750,000
Current Portion Lease Payable	269,200	--
Total Current Liabilities	3,317,600	2,761,100
Long-Term Note Payable	--	750,000
Long-Term Lease Payable	562,900	--
Commitments and Contingent Liabilities (Notes 3 and 13)		
Stockholders' Equity:		
Common Stock, $.001 Par Value 75,000,000 Shares Authorized; 42,512,400 Issued and 42,508,600 Outstanding at December 31, 1998; 26,487,400 Issued and 26,477,700 Outstanding at December 31, 1997	42,500	26,500
Additional Paid-In Capital	140,777,200	76,561,400
Less: 3,800 and 9,700 Common Treasury Shares at Cost at December 31, 1998 and 1997, respectively	(13,800)	(35,800)
Accumulated Deficit	(122,036,300)	(70,236,600)
Total Stockholders' Equity	18,769,600	6,315,500
Total Liabilities and Stockholders' Equity	$ 22,650,100	$ 9,826,600

The accompanying notes are an integral part of the consolidated financial statements.

CONSOLIDATED STATEMENT OF OPERATIONS

	Year Ended December 31, 1998	Year Ended December 31, 1997	Year Ended December 31, 1996
OPERATING REVENUE:			
Product Development and Licensing Agreements	$ 2,094,500	$ 1,147,600	$ 591,200
Product Sales	55,900	44,500	523,300
Total Operating Revenue	2,150,400	1,192,100	1,114,500
OPERATING EXPENSE:			
Cost of Product Sales	22,300	21,000	358,700
Research and Development	5,703,100	5,256,900	6,036,500
Charge for Purchased In-Process Research & Development	44,630,000	--	--
General and Administrative	3,808,100	3,472,900	6,472,600
Amortization of Goodwill	546,400	--	--
Total Operating Expense	54,709,900	8,750,800	12,867,800
Operating Loss	(52,559,500)	(7,558,700)	(11,753,300)
Non-Operating Income (Expense), Net	759,800	(5,549,300)	963,200
Net Loss	$(51,799,700)	$(13,108,000)	$(10,790,100)
Basic and Diluted Net Loss Per Common Share	$ (1.56)	$ (0.52)	$ (0.50)
Weighted Average Common Shares Outstanding	33,177,200	25,139,900	21,693,400

The accompanying notes are an integral part of the consolidated financial statements.

CONSOLIDATED STATEMENT OF STOCKHOLDERS' EQUITY
FOR THE YEARS ENDED DECEMBER 31, 1998, 1997 AND 1996

	Common Stock		Additional Paid-In	Treasury Stock		Total Stockholders'
	Shares	Par Value	Capital	Cost	Accumulated Deficit	Equity
Balance at December 31, 1995	19,904,700	$19,900	$ 62,399,200	$(80,500)	$ (46,338,500)	$ 16,000,100
Issuance at $.60 to $3.56 per Share upon Exercise of Stock Options	60,700	100	161,600	--	--	161,700
Employee Stock Purchase Plan Issuance at $2.71 per Share	--	--	(3,000)	11,500	--	8,500
Net Proceeds from Stock Issuance	5,000,000	5,000	10,063,700	--	--	10,068,700
Compensation Expense Associated with Stock Options	--	--	170,300	--	--	170,300
Net Loss for the Year Ended December 31, 1996	--	--	--	--	(10,790,100)	(10,790,100)
Balance at December 31, 1996	24,965,400	$25,000	$ 72,791,800	$(69,000)	$ (57,128,600)	$ 15,619,200
Issuance at $1.81 to $2.13 per Share upon Exercise of Stock Options	12,000	--	22,400	--	--	22,400
Employee Stock Purchase Plan Issuance at $1.38 and $1.39 per Share	--	--	(20,700)	33,200	--	12,500
Issuance at $2.50 per Share for Settlement of Litigation	1,500,000	1,500	3,748,500	--	--	3,750,000
Compensation Expense Associated with Issuance at $1.94 per Share	10,000	--	19,400	--	--	19,400
Net Loss for the Year Ended December 31, 1997	--	--	--	--	(13,108,000)	(13,108,000)
Balance at December 31, 1997	26,487,400	$26,500	$ 76,561,400	$(35,800)	$ (70,236,600)	$ 6,315,500
Issuance at $0.60 to $1.81 per Share upon Exercise of Stock Options	11,400	--	15,300	--	--	15,300
Employee Stock Purchase Plan Issuance at $1.65 and $1.94 per Share	--	--	(10,700)	22,000	--	11,300
Returned Shares from Settlement of Litigation at $2.50 per Share	(66,300)	--	(165,600)	--	--	(165,600)
Net Proceeds from Stock Issuance	2,043,500	2,000	3,697,800	--	--	3,699,800
Share Issued for Acquisition of Virus Research Institute, Inc.	14,036,400	14,000	60,679,000	--	--	60,693,000
Net Loss for the Year Ended December 31, 1998	--	--	--	--	(51,799,700)	(51,799,700)
Balance at December 31, 1998	42,512,400	$42,500	$ 140,777,200	$(13,800)	$(122,036,300)	$ 18,769,600

The accompanying notes are an integral part of the consolidated financial statements.

CONSOLIDATED STATEMENT OF CASH FLOWS

Increase in Cash and Cash Equivalents	Year Ended December 31, 1998	Year Ended December 31, 1997	Year Ended December 31, 1996
Cash Flows From Operating Activities:			
Net Loss	$(51,799,700)	$(13,108,000)	$(10,790,100)
Adjustments to Reconcile Net Loss to Cash Used by Operating Activities:			
Depreciation and Amortization	989,800	353,800	464,800
Write-off of Capitalized Patent Costs	337,000	51,100	1,751,600
Decrease in Collaborator Advance	--	--	(181,500)
Non-Cash Portion of Litigation Settlement	(165,600)	5,250,000	--
Compensation Expense Associated with Stock Issuance	--	19,400	--
Compensation Expense Associated with Stock Options	--	--	170,300
Gain on Sale of Research Products and Operations of T Cell Diagnostics, Inc.	--	--	(283,000)
Gain on Sale of Equipment	(22,300)	--	--
Charge for Purchased In-Process Research and Development	44,630,000	--	--
Changes in Assets and Liabilities, Net of Acquisition:			
Increase in Current Portion Restricted Cash	--	(750,000)	--
Prepaid and Other Current Assets	(1,529,900)	81,700	109,400
Accounts Payable and Accrued Expenses	(1,291,300)	(343,400)	(796,200)
Deferred Revenue	--	750,000	(121,100)
Net Cash Used by Operating Activities	(8,852,000)	(7,695,400)	(9,675,800)
Cash Flows From Investing Activities:			
Acquisition of Property and Equipment	(294,800)	(76,900)	(135,200)
Proceeds from the Sale of Equipment	25,200	--	--
Redemption of Marketable Securities	4,463,000	--	--
Increase in Patents and Licenses	(426,000)	(381,200)	(507,400)
Decrease in Long-Term Restricted Cash, Net	160,000	160,000	165,000
Cash Received from Acquisition of Virus Institute, Inc.	4,391,500	--	--
Payment of Note Payable	(750,000)	--	--
Payment Received on Convertible Note Receivable	--	1,802,700	200,300
Other	57,600	400	30,800
Net Cash Provided (Used) by Investing Activities	7,626,500	1,505,000	(246,500)
Cash Flows From Financing Activities:			
Net Proceeds from Stock Issuance	3,711,100	12,500	10,077,200
Proceeds from Exercise of Stock Options	15,300	22,400	161,700
Net Cash Provided by Financing Activities	3,726,400	34,900	10,238,900
Increase (Decrease) in Cash and Cash Equivalents	2,500,900	(6,155,500)	316,600
Cash and Cash Equivalents at Beginning of Period	6,436,300	12,591,800	12,275,200
Cash and Cash Equivalents at End of Period	$ 8,937,200	$ 6,436,300	$ 12,591,800

The accompanying notes are an integral part of the consolidated financial statements.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

YEARS ENDED DECEMBER 31, 1998, 1997 and 1996

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

(A) Nature of Business

AVANT Immunotherapeutics, Inc. (the "Company") is a biopharmaceutical company engaged in the discovery, development and commercialization of products that harness the human immune response to prevent and treat disease. The Company develops and commercializes products on a proprietary basis and in collaboration with established pharmaceutical partners, including Novartis Pharma AG, Astra AB, Yamanouchi Pharmaceutical Co., Ltd., Pasteur Merieux Connaught, and SmithKline Beecham.

In March 1998, the Company completed a private placement of 2,043,500 shares of common stock to institutional investors at a price of $1.90 per share. Net proceeds from the common stock issuance totaled approximately $3,699 800. On August 21, 1998, the Company acquired all of the outstanding capital stock of Virus Research Institute, Inc. ("VRI"), a company engaged in the discovery and development of (i) systems for the delivery of vaccines and immunotherapeutics and (ii) novel vaccines (see Note 15).

The Company's cash, cash equivalents and marketable securities at December 31, 1998 was $13,840,300. The Company's working capital at December 31, 1998 was $12,298,100. The Company incurred a loss of $51,799,700 for the year ended December 31, 1998, which includes a charge of $44,630,000 for purchased in-process research and development related to the acquisition of VRI (see Note 15). The Company believes that cash inflows from existing grants and collaborations, interest income on invested funds and its current cash, cash equivalents, and marketable securities will be sufficient to meet estimated working capital requirements and fund operations beyond December 31, 1999. The working capital requirements of the Company are dependent on several factors including, but not limited to, the costs associated with research and development programs, preclinical and clinical studies and the scope of collaborative arrangements. During 1999, the Company expects to take steps to raise additional capital including, but not limited to, licensing of technology programs with existing or new collaborative partners, possible business combinations, or issuance of common stock via private placement and public offering. There can be no assurances that such efforts will be successful.

In March 1996, the Company sold substantially all of the assets of its wholly-owned subsidiary, T Cell Diagnostics, Inc. ("TCD") while retaining all rights to the TRAx(R) product franchise. The Company continued to commercialize the TRAx(R) line of diagnostic products which are used in the detection and monitoring of immune-related disorders through 1998. The Company is currently focusing its efforts on establishing a partnership for the TRAx(R) technology.

(B) Basis of Presentation

The consolidated financial statements include the accounts of AVANT Immunotherapeutics, Inc. and its wholly owned subsidiaries, Virus Research Institute, Inc., from the date of purchase, and T Cell Diagnostics, Inc. All intercompany transactions have been eliminated.

(C) Cash Equivalents and Investments

The Company considers all highly liquid investments purchased with a maturity of three months or less to be cash equivalents. Short-term investments are those with maturities in excess of three months but less than one year. All cash equivalents and short-term investments have been classified as available for sale and are reported at fair market value with unrealized gains and losses included in stockholders' equity.

In addition to cash equivalents, the Company has investments in corporate and municipal debt securities that are classified in the balance sheet as held-to-maturity in accordance with the provisions of Statement of Financial Accounting Standards No. 115 ("SFAS 115"), "Accounting for Certain Instruments in Debt and Equity Securities." Held-to-maturity investments are securities the Company has the positive intent and ability to hold to maturity. These securities are accounted for at amortized cost, which approximates fair value.

The Company invests its nonoperating cash in debt instruments of financial institutions, government entities and corporations, and mutual funds. The Company has established guidelines relative to credit ratings, diversification and maturities that maintain safety and liquidity.

(D) Fair Value of Financial Instruments

The Company enters into various types of financial instruments in the normal course of business. Fair values for cash, cash equivalents, short-term investments, accounts and notes receivable, accounts and notes payable and accrued expenses approximate carrying value at December 31, 1998 and 1997, due to the nature and the relatively short maturity of these instruments.

(E) Revenue Recognition

The Company has entered into various license and development agreements with pharmaceutical and biotechnology companies. Revenue derived from such agreements is recognized over the specified development period as research and development or discovery activities are performed. Cash received in advance of activities being performed is recorded as deferred revenue. Signing fees, received by the Company for entering into license and development agreements are recognized when received if the fees are nonrefundable and the Company has no obligations to perform under the agreement. Revenues from product sales are recorded when the product is shipped.

(F) Research and Development Costs

Research and development costs are expensed as incurred.

(G) Inventories

Inventories are stated at the lower of cost or market. Cost is determined using the first-in, first-out (FIFO) method.

(H) Property and Equipment

Property and equipment is stated at cost and depreciated over the estimated useful lives of the related assets using the straight-line method. Laboratory equipment and office furniture and equipment are depreciated over a five year period and computer equipment is depreciated over a three year period. Leasehold improvements are amortized over the shorter of the estimated useful life or the noncancelable term of the related lease.

(I) Licenses, Patents and Trademarks

Included in other assets are the costs of purchased licenses and certain costs associated with patents and trademarks which are capitalized and amortized over the shorter of the estimated useful lives or ten years using the straight-line method. The Company periodically evaluates the recoverability of these assets in accordance with Statement of Financial Accounting Standards No. 121, "Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to be Disposed Of " ("SFAS 121").

(J) Loss Per Share

In February 1997, the Financial Accounting Standards Board issued Statement of Financial Accounting Standards No. 128 ("SFAS 128"), "Earnings per Share", which changed the method of calculating earnings per share. SFAS 128, which the Company adopted in the fourth quarter of 1997, requires the presentation of "basic" earnings per share and "diluted" earnings per share. As a result of the Company's net loss, both basic and diluted earnings per share are computed by dividing the net loss available to common shareholders by the weighted average number of shares of common stock outstanding.

(K) Stock Compensation

The Company's employee stock compensation plans are accounted for in accordance with Accounting Principles Board Opinion No. 25, "Accounting for Stock Issued to Employees." The Company adopted the disclosure requirements of Statement of Financial Accounting Standards No. 123 ("SFAS 123"), "Accounting for Stock-Based Compensation" (see Note 7).

(L) Use of Estimates

The preparation of the financial statements in conformity with generally accepted accounting principles requires management to make estimates and assumptions that affect certain reported amounts and disclosures. Actual results could differ from those estimates.

2. SHORT-TERM INVESTMENTS AND RESTRICTED CASH

The Company invests in high quality, short-term investments which are considered highly liquid and are available to support current operations. The Company also invests in high quality, debt securities which are classified as held-to-maturity. At December 31, 1998 and 1997, the Company's investments that met the definition of cash equivalents were recorded at cost, which approximated fair value.

At December 31, 1998 and 1997, the Company had pledged as collateral $750,000 which is recorded as current portion restricted cash and $365,000 and $525,000, respectively, which is recorded as long-term restricted cash. Pursuant to the terms of the settlement agreement between the Company and its former landlord, the Company pledged as collateral $750,000 at December 31, 1998 and 1997 (see Note 13). The Company also has $365,000 and $525,000 pledged as collateral at December 31, 1998 and 1997, respectively, in accordance with the terms of the operating lease (see Note 3).

3. PROPERTY, EQUIPMENT AND LEASES

Property and equipment includes the following:

	December 31, 1998	December 31, 1997
Laboratory Equipment	$ 2,480,000	$ 1,834,200
Office Furniture and Equipment	1,148,200	1,013,700
Leasehold Improvements	393,600	255,000
Property and Equipment, Total	4,021,800	3,102,900
Less Accumulate Depreciation and Amortization	(2,910,400)	(2,738,400)
	$ 1,111,400	$ 364,500

Depreciation expense related to equipment and leasehold improvements was approximately $267,600, $224,000 and $290,800 for the years ended December 31, 1998, 1997 and 1996, respectively.

In May 1996, the Company entered into a six-year lease for laboratory and office space in Needham, Massachusetts. The lease replaced two-year lease and sublease agreements entered into in March 1995 for the same location and increased the amount of office and laboratory space available. In March 1996, the Company sold certain property and equipment to Endogen as part of the sale of the research products and operations of TCD. In addition, certain lease obligations of the Company were assigned to Endogen in conjunction with the sale (see Note 14).

In August 1994, the Company entered into a lease agreement providing the Company with the right to lease up to $2,000,000 of equipment for up to a five-year term. The lease agreement contains certain restrictive covenants determined at the end of each fiscal quarter which, for the quarter ended September 30, 1995, included a minimum cash, cash equivalents and short-term investments balance of $10,000,000. At September 30, 1995 the Company's cash and cash equivalents balance was below $10,000,000. As a result, in accordance with the lease agreement, the Company pledged cash as collateral to the lessor equal to the amount outstanding on the lease which is to remain in a certificate of deposit until the end of the lease or as otherwise agreed by the lessor and the Company. The Company has recorded $365,000 and $525,000 as long-term restricted cash at December 31, 1998 and 1997, respectively.

Obligations for base rent, net of sublease income, under these and other noncancelable operating leases as of December 31, 1998 are approximately as follows:

Year ending December 31,	1999	$ 760,000
	2000	689,600
	2001	668,200
	2002	252,100
	2003	--
	Thereafter	--
	Total minimum lease payments	$2,369,900

The Company's total rent expense was approximately $909,500, $851,400 and $903,100 for the years ended December 31, 1998, 1997 and 1996, respectively.

4. OTHER ASSETS

Other assets include the following:

	December 31, 1998	December 31, 1997
Capitalized Patent Costs	$ 1,890,300	$ 1,900,700
Accumulated Amortization	(595,500)	(519,100)
Capitalized Patent Costs, Net	1,294,800	1,381,600
Goodwill and Other Intangible Assets, Net	3,289,300	--
Other Non Current Assets	146,600	165,900
	$ 4,730,700	$ 1,547,500

In December 1998, in accordance with SFAS 121, the Company evaluated and subsequently wrote off approximately $294,500 of capitalized patent costs relating to its TRAx(R) test kit program which is included in operating expense or general and administrative expense for the year ended December 31, 1998.

During the second quarter of 1996, as part of the Company's realignment of certain of its operations, the Company suspended internal funding of the research and development of its T cell antigen receptor program pending completion of negotiations to transfer certain of its patent and license rights related to such technology to Astra AB. In June 1996, in accordance with SFAS 121, the Company evaluated and subsequently wrote off approximately $1,751,600 of capitalized patent costs relating to its T cell antigen receptor program which is included in operating expense as general and administrative expense for the year ended December 31, 1996.

Amortization expense for the years ended December 31, 1998, 1997 and 1996 relating to the capitalized costs of purchased licenses and patents and trademarks was approximately $175,800, $129,800 and $174,000, respectively. Goodwill amortization expense for the year ended December 31, 1998 was approximately $546,400.

5. ACCRUED EXPENSES

Accrued expenses include the following:

	December 31, 1998	December 31, 1997
Accrued License Fees	$ 60,000	$ 60,000
Accrued Payroll and Employee Benefits	258,700	222,600
Accrued Clinical Trials	195,500	448,100
Accrued Legal	263,800	20,600
Other Accrued Expenses	406,700	308,600
	$1,184,700	$1,059,900

6. INCOME TAXES

	Year Ended December 31, 1998	1997	1996
Income tax benefit:			
Federal	$ 2,444,900	$ 4,539,100	$ 3,696,100
State	198,900	529,000	388,000
	2,643,800	5,068,100	4,084,100
Deferred tax assets valuation allowance	(2,643,800)	(5,068,100)	(4,084,100)
	$ --	$ --	$ --

Deferred tax assets are comprised of the following:

	December 31, 1998	December 31, 1997
Net Operating Loss Carryforwards	$ 42,591,900	$ 25,775,200
Tax Credit Carryforwards	4,139,300	3,143,800
Other	1,626,500	1,521,500
Gross Deferred Tax Assets	48,357,700	30,440,500
Deferred Tax Assets Valuation Allowance	(48,357,700)	(30,440,500)
	$ --	$ --

Reconciliation between the amount of reported income tax expenses and the amount computed using the U.S. Statutory rate of 35% follows:

	1998	1997	1996
Loss at Statutory Rates	$(2,313,200)	$(4,587,800)	$(3,776,500)
Research and Development Credits	(298,100)	(172,100)	(189,400)
State tax benefit, net of federal tax liabilities	(269,700)	(591,500)	(337,400)
Other	237,200	283,300	219,200
Benefit of losses and credits not recognized, increase in valuation allowance	2,643,800	5,068,100	4,084,100
	$ --	$ --	$ --

The Company has provided a full valuation allowance for deferred tax assets as management has concluded that it is more likely than not that the Company will not recognize any benefits from its net deferred tax asset. The timing and amount of future earnings will depend on numerous factors, including the Company's future profitability. The Company will assess the need for a valuation allowance as of each balance sheet date based on all available evidence.

At December 31, 1998, the Company has U.S. net operating loss carryforwards of $73,405,802, U.S. capital loss carryforwards of $1,852,300, and U.S. tax credits of $2,848,400 which expire at various dates from 1999 through 2010. Under the Tax Reform Act of 1986, certain substantial changes in the Company's ownership could result in an annual limitation on the amount of net operating loss carryforwards, research and development tax credits, and capital loss carryforwards which could be utilized.

7. STOCKHOLDERS' EQUITY

(A) Public and Private Stock Offerings

On March 24, 1998, the Company completed a private placement of 2,043,500 newly issued shares of common stock. Net proceeds were approximately $3,699,800 after deducting all associated expenses.

On August 26, 1996, the Company completed a public offering of 5,000,000 newly issued shares of common stock. Net proceeds were approximately $10,068,700 after deducting all associated expenses.

(B) Preferred Stock

At December 31, 1998 and 1997, the Company had authorized preferred stock comprised of 1,163,102 shares of convertible Class B and 3,000,000 shares of convertible Class C of which 350,000 shares has been designated as Class C-1 Junior Participating Cumulative, the terms of which are to be determined by the Company's Board of Directors. There was no preferred stock outstanding at December 31, 1998 and 1997.

(C) Warrants

The Company has issued warrants to purchase common stock in connection with the acquisition of VRI on August 21, 1998. The warrants are exercisable for $6.00 per share and expire August 22, 2003. In connection with the acquisition of VRI the Company also assumed the obligations of VRI with respect to each outstanding warrant to subscribe for and purchase VRI common stock (a "VRI Warrant"). Each VRI Warrant assumed by the Company, which will continue to have, and be subject to, the terms and conditions of the applicable warrant agreements and warrant certificates, has been adjusted for the ratio of the Company's common stock exchanged for VRI common stock in the acquisition.

Warrants outstanding at December 31, 1998 are as follows:

Security	Number of Shares	Exercise Price Per Share	Expiration Date
Common stock	35,657	$ .62	February 9, 2004
Common stock	76,842	1.26	December 14, 2005
Common stock	17,050	7.10	April 12, 2001
Common stock	1,811,843	6.00	August 22, 2003

(D) Stock Compensation and Employee Stock Purchase Plans

Stock Compensation

The Company's 1991 Stock Compensation Plan (the "1991 Plan"), which is an amendment and restatement of the Company's 1985 Incentive Option Plan, permits the granting of incentive stock options (intended to qualify as such under Section 422A of the Internal Revenue Code of 1986, as amended), non-qualified stock options, stock appreciation rights, performance share units, restricted stock and for other awards of restricted stock in lieu of cash bonuses to employees, consultants and outside directors.

The Plan allows for a maximum of 3,700,000 shares of common stock to be issued prior to December 1, 2001. The Board of Directors determines the term of each option, option price, number of shares for which each option is granted and the rate at which each option vests. The term of each option cannot exceed ten years (five years for options granted to holders of more than 10% of the voting stock of the Company). The exercise price of stock options shall not be less than the fair market value of the common stock at the date of grant (110% of fair market value for options granted to holders of more than 10% of the voting stock of the Company).

In connection with the acquisition of VRI the Company assumed the obligations of VRI under VRI's 1992 Equity Incentive Plan (the "VRI Plan") and each outstanding option to purchase VRI common stock (a "VRI Stock Option") granted under the VRI Plan. Each VRI Stock Option assumed by the company is deemed to constitute an option to acquire, on the same terms and conditions as were applicable under such VRI Stock Option, shares of the Company's common stock which has been adjusted for the ratio of the Company's common stock exchanged for VRI's common stock in the acquisition. As of the date the acquisition was completed the Company assumed 1,532,055 stock options to acquire the Company's common stock at a weighted average exercise price of $2.34.

Employee Stock Purchase Plan

The 1994 Employee Stock Purchase Plan (the "1994 Plan") was adopted on June 30, 1994. All full time employees of the Company are eligible to participate in the 1994 Plan. A total of 150,000 shares are reserved for issuance under this plan. An employee may participate voluntarily in any offering for up to 15% of their compensation to purchase up to 500 shares per year and may withdraw from any offering at any time before stock is purchased. Participation terminates automatically upon termination of employment. The purchase price per share of common stock in an offering is 85% of the lower of its fair market value at the beginning of the offering period or the applicable exercise date.

A summary of stock option activity for the years ended December 31, 1998, 1997 and 1996 is as follows:

	1998		1997		1996	
	Shares	Weighted Average Exercise Price per Share	Shares	Weighted Average Exercise Price per Share	Shares	Weighted Average Exercise Price per Share
Outstanding at January 1,	1,773,242	$ 3.20	2,303,196	$ 5.94	2,516,313	$ 5.82
Granted	638,250	1.99	492,750	1.77	472,600	2.82
Assumed in acquisition	1,532,055	2.34	--	--	--	--
Exercised	(11,355)	1.34	(12,000)	1.86	(60,710)	2.66
Canceled	(577,484)	2.82	(1,010,704)	8.78	(625,007)	3.39
Outstanding at December 31,	3,354,708	$ 2.65	1,773,242	$ 3.20	2,303,196	$ 5.94
At December 31,						
Options exercisable	2,542,950		1,039,437		1,740,310	
Available for grant	1,095,206		1,296,716		678,762	
Weighted average fair value of options granted during year		$ 1.10		$ 0.92		$ 1.26

The following table summarizes information about the stock options outstanding at December 31, 1998:

	Options Outstanding		
Range of Exercise Prices	Number Outstanding at December 31, 1998	Weighted Average Remaining Contractual Life	Weighted Average Exercise Price per Share
$ 0.10 - 0.64	698,631	5.46	$ 0.63
0.95 - 1.97	797,515	8.97	1.78
2.03 - 2.75	575,190	7.99	2.55
2.93 - 4.04	758,091	6.77	3.57
4.06 - 7.81	525,281	5.50	5.45
$ 0.10 - 7.81	3,354,708		

	Options Exercisable	
Range of Exercise Prices	Number Exercisable at December 31, 1998	Weighted Average Exercise Price per Share
$ 0.10 - 0.64	698,631	$ 0.63
0.95 - 1.97	194,642	1.76
2.03 - 2.75	414,942	2.56
2.93 - 4.04	710,204	3.59
4.06 - 7.81	524,531	5.45
$ 0.10 - 7.81	2,542,950	

Fair Value Disclosures

Had compensation costs for the Company's stock compensation plans been determined based on the fair value at the grant dates, consistent with SFAS 123, the Company's net loss, and net loss per share for the years ending December 31, 1998, 1997 and 1996 would be as follows:

	1998	1997	1996
Net Loss:			
As reported	$ 51,799,700	$13,108,000	$10,790,100
Pro forma	$ 52,150,800	$13,514,100	$11,269,900
Basic and Diluted Net Loss Per Share:			
As reported	$ 1.56	$ 0.52	$ 0.50
Pro forma	1.57	0.54	0.52

The fair value of the option grant is estimated on the date of grant using the Black-Scholes option pricing model with the following assumptions:

	1998	1997	1996
Expected dividend yield	0%	0%	0%
Expected stock price volatility	63%	57%	51%
Risk-free interest rate	4.5%-5.6%	5.5%-6.4%	4.9%-6.7%
Expected option term	2.50 Years	2.7 Years	2.6 Years

Because the determination of the fair value of all options granted includes an expected volatility factor in addition to the factors detailed in the table above, and because additional option grants are expected to be made each year, the above pro forma disclosures are not representative of pro forma effects of reported net income for future years.

(E) Shareholder Rights Plan

On November 10, 1994, the Company's Board of Directors declared a dividend of one preferred share purchase right for each share of common stock outstanding. Each right entitles the holder to purchase from the Company one-one thousandth of a share of Series C-1 Junior Participating Cumulative Preferred Stock (a "Unit"), par value $.01 at a price of $16.00 per one-one thousandth of a share, subject to certain adjustments. The Units are exercisable only if a person or a group acquires 15% or more of the outstanding common stock of the Company or commences a tender offer which would result in the ownership of 15% or more of the Company's outstanding common stock. Once a Unit becomes exercisable, the plan allows the Company's shareholders to purchase common stock at a substantial discount. Unless earlier redeemed, the Units expire on November 10, 2004. The Company is entitled to redeem the Units at $.01 per Unit subject to adjustment for any stock split, stock dividend or similar transaction.

As of December 31, 1998 and 1997, the Company has authorized the issuance of 350,000 shares of Series C-1 Junior Participating Cumulative Preferred Stock for use in connection with the shareholder rights plan.

(F) Severance Agreement Charge

On May 29, 1996, the Company announced changes in its senior management. As part of the reorganization, the Company recorded a $425,300 charge to earnings resulting from a severance agreement with the Company's former President and Chief Executive Officer. The charge included a $255,000 severance payment and a non-cash charge of approximately $170,300 relating to the acceleration of certain stock option vesting rights.

(G) Acquisition of Virus Research Institute, Inc.

The Company issued 14,036,400 shares of AVANT common stock and warrants to purchase approximately 1,811,200 shares of AVANT common stock on August 21, 1998, in exchange for all of the oustanding common stock of VRI (see Note 15).

8. RESEARCH AND LICENSING AGREEMENTS

The Company has entered into licensing agreements with several universities and research organizations. Under the terms of these agreements, the Company has received licenses or options to license technology, certain patents or patent applications. The Company made required payments of nonrefundable license fees and royalties which amounted to approximately $100,000, $65,000 and $205,000 for the years ended December 31, 1998, 1997 and 1996, respectively.

9. PRODUCT DEVELOPMENT AND DISTRIBUTION AGREEMENTS

The Company's product development revenues were received from contracts with different organizations. Total revenue received by the Company in connection with these contracts for the years ended December 31, 1998, 1997 and 1996 were approximately $2,094,500, $1,147,600 and $591,200, respectively. A summary of these contracts follows:

(A) Novartis Pharma AG

In October 1997, the Company entered into an option agreement with Novartis Pharma AG ("Novartis"), a worldwide pharmaceutical company headquartered in Basel, Switzerland, relating to the development of TP10 for use in xenotransplantation (animal organs into humans) and allotransplantation (human to human). The agreement granted Novartis a two-year option to license TP10 with exclusive worldwide marketing rights (except Japan) in the fields of xenotransplantation and allotransplantation. In exchange for granting the two-year option, the Company will receive annual option fees and supplies of clinical grade TP10 with a combined value of up to $5 million. Should Novartis exercise its option to license TP10 and continue development within the fields of xenotransplantation and allotransplantation, it will provide equity to the Company in the form of investment, licensing fees and milestone payments based upon attainment of certain development and regulatory goals. The Company may also receive from Novartis funding for research as well as royalty payments on eventual products sales.

Under the terms of the agreement Novartis paid the Company a non-refundable option fee related to the first option period which commenced in October 1997. In November 1998, the Company received an option fee payment from Novartis which initiates year two of the option agreement. During the option period, Novartis is granted sole access to the technology for use in xenotransplantation and allotransplantation. The Company is recording the option fee as revenue over the one year option period.

(B) Astra AB

In January 1992, the Company entered into a product development and distribution agreement with Astra AB ("Astra"), a worldwide pharmaceutical company headquartered in Sodertalje, Sweden, for the joint development and marketing of therapeutic products using the Company's proprietary T cell antigen receptor ("TCAR") technology. The products developed exclusively and jointly with Astra were monoclonal antibodies and protein-derived immunomodulators that may have efficacy in treating autoimmune diseases such as multiple sclerosis, Crohn's disease, and rheumatoid arthritis.

In June 1996, the Company suspended further internal funding of the research and development of the TCAR program. In December 1996, the Company further amended its agreement with Astra to transfer certain of its rights to the TCAR technology to Astra in addition to sole responsibility for further development and commercialization of the TCAR technology. Under the amended agreement, the Company received an initial signing fee of $100,000 and could receive future milestone and royalty payments upon Astra's successful development and commercialization of the TCAR technology.

The Company recognized revenue from milestone payments in 1997 of $650,000 and TCAR funding revenue of $453,400 in 1996 which included $181,600 from the reduction of the collaborator advance liability. The funds were advanced from Astra for the expansion of additional space dedicated to joint TCAR product research.

(C) CytoTherapeutics

In April 1996, the Company licensed portions of its patent and technology rights regarding Complement Receptor 1 ("CR1") to CytoTherapeutics, Inc. for use in CytoTherapeutics' cell-based products for the delivery of therapeutic substances to the central nervous system. Under the agreement, the Company granted non-exclusive rights for the use of CR1 in any encapsulated-cell product. The license does not include rights to use CR1 for therapeutic effects. In 1996, the Company received a non-refundable $100,000 signing fee and may receive additional milestone payments and royalty payments from commercialized products resulting from the license.

(D) Pasteur Merieux Connaught

In December 1994, AVANT entered into a license agreement with Pasteur Merieux Connaught ("PMC") which granted PMC the exclusive right to make, use and sell Adjumer(TM)-formulated vaccines for prevention of influenza, Lyme disease and diseases caused by meningococcus and the co-exclusive right (exclusive, except for the right of AVANT or one other person licensed by AVANT) to make, use and sell Adjumer(TM)-formulated vaccines directed against five other pathogens, including pneumococcus and RSV. VRI has retained rights to make, use, sell and license Adjumer(TM)-formulated vaccines against the subject infections in most of the Far East, including China and Japan, subject to certain geographical extension rights available to PMC. In December 1998, the Company received a milestone payment of $600,000 from PMC upon commencement of the first Phase I clinical trial of the Adjumer(TM)-formulated vaccine for RSV.

10. NON-OPERATING INCOME (EXPENSE)

Non-operating income (expense) includes the following:

	Year Ended December 31,		
	1998	1997	1996
Interest and Dividend Income	$ 571,900	$ 577,300	$ 680,200
Gain on Sale of Portion of Diagnostic Business	--	--	283,000
Gain on Sale of Equipment	22,300	--	--
Legal Settlement (see Note 13)	165,600	(6,108,800)	--
Gain on Sale of Investments	--	(17,800)	--
	$ 759,800	$(5,549,300)	$ 963,200

11. DEFERRED SAVINGS PLAN

Under section 401(k) of the Internal Revenue Code of 1986, as amended, the Board of Directors adopted, effective May 1990, a tax-qualified deferred compensation plan for employees of the Company. Participants may make tax deferred contributions up to 15%, or $10,000, of their total salary in 1998. The Company may, at its discretion, make contributions to the plan each year matching up to 1% of the participant's total annual salary. Company contributions amounted to $20,100, $20,600 and $33,000 for the years ended December 31, 1998, 1997 and 1996, respectively.

12. FOREIGN SALES

Foreign Sales:
- --------------

Product sales were generated geographically as follows:

Net Product Sales for the Twelve Months Ended	Europe	USA	Asia	Other	Total
December 31, 1998	$ 5,000	$ 31,000	$ --	$ 20,000	$ 56,000
December 31, 1997	5,000	29,000	--	11,000	45,000
December 31, 1996	145,000	240,000	130,000	8,000	523,000

13. LITIGATION

In December 1994, the Company filed a lawsuit in the Superior Court of Massachusetts against the landlord of its former Cambridge, Massachusetts headquarters to recover the damages incurred by the Company resulting from the evacuation of the building due to air quality problems, which caused skin and respiratory irritation to a significant number of employees. The landlord defendant filed counterclaims, alleging the Company breached its lease obligations. The court ordered a limited trial between the Company and the landlord on certain factual issues which began on November 20, 1996. Closing arguments for the limited trial were heard on January 13, 1997. In a separate lawsuit, the landlord's mortgagee filed claims against the Company for payment of the same rent alleged to be owed. A motion for summary judgment filed by the bank was denied by the court. In August 1997, the Superior Court of Massachusetts entered findings of fact and conclusions of law on the limited trial of the Company's lawsuit against the landlord. In its findings, the Court concluded that the Company had not proved, as alleged by the Company, that any fireproofing fibers contaminated the Company's space, the Company's space was not uninhabitable because of contamination from fireproofing fibers and the Company was not justified in terminating its lease on the grounds that its office and laboratories were uninhabitable. In November 1997, the Company reached a settlement of the litigation with its former landlord and the landlord's mortgagee. The Company agreed to pay $858,800 in cash on November 17, 1997 and issue a total of 1,500,000 shares of its common stock. In addition, the Company signed a note for $750,000 payable on November 16, 1998 secured by $750,000 cash collateral and a note for $750,000 due November 15, 1999, secured by 132,500 shares of common stock. The total settlement, valued at $6,108,800, is comprised of the cash and notes totaling $2,358,800 and common stock valued at $3,750,000 as of October 31, 1997 and is included in non-operating expense for the year ended December 31, 1997. The common stock issued is subject to restrictions on transfer per the settlement agreement. The settlement agreement also provides for certain registration rights for the shares of common stock to become effective no later than September 30, 1998. Upon such registration, however, the settlement agreement limits the number of shares that may be sold over a given period of time.

In May 1998, the Company used cash as collateral for a $750,000 note due November 15, 1999 issued in connection with a settlement agreement with its former landlord and the landlord's mortgagee. In accordance with the settlement agreement, 66,250 shares of the Company's common stock issued to secure the note were returned to the Company. The common stock was valued at $165,600 as of October 31, 1997 and its return is included in non-operating income in 1998.

14. SALE OF PORTION OF DIAGNOSTIC BUSINESS

On March 5, 1996 the Company sold to Endogen, Inc. the research products and operations of TCD for a purchase price of approximately $2,880,000, while retaining the TRAx(R) diagnostic product franchise. The consideration for this sale to Endogen was paid in the form of a convertible subordinated note receivable (the "Convertible Note") in the principal amount of $2,003,000 and a combination of cash and a short-term note used to repay approximately $980,000 of obligations under the Company's operating lease. On February 10, 1997, the Company converted the outstanding principal balance, or $1,803,000, of the Convertible Note into shares of Endogen commons stock which it subsequently sold. Additionally, the Company may receive a royalty on certain of Endogen's sales of research products.

The Company is currently focusing its efforts on establishing a partnership for the TRAx(R) technology.

15. ACQUISITION OF VIRUS RESEARCH INSTITUTE, INC.

On August 21, 1998, the Company acquired all of the outstanding capital stock of VRI, a company engaged in the discovery and development of (i) systems for the delivery of vaccines and immunotherapeutics and (ii) novel vaccines. The Company issued approximately 14,036,400 shares of AVANT common stock and warrants to purchase approximately 1,811,200 shares of AVANT common stock in exchange for all of the outstanding common stock of VRI, on the basis of 1.55 shares of AVANT's common stock and .20 of an AVANT warrant for one share of VRI common stock. The purchase price of $63,004,700 consisted of (i) the issuance of 14,036,400 shares of AVANT common stock valued at $51,686,800 and 1,811,200 AVANT warrants valued at $4,980,700 for all outstanding VRI capital stock, (ii) the issuance of AVANT warrants valued at $387,600 in exchange for all of the outstanding VRI warrants, (iii) the issuance of options to purchase AVANT common stock valued at $3,637,900 for all of the outstanding options to purchase VRI common stock assumed by the Company, and (iv) severance and transaction costs totaling $2,311,700.

The allocation of the purchase price was determined as follows:

Net tangible assets acquired	$ 14,539,000
Intangible assets acquired:	
Work force	470,000
Collaborative relationships	1,090,000
Goodwill	2,275,700
In-process technology	44,630,000
Total	$ 63,004,700

The acquisition has been accounted for as a purchase, and accordingly, the original purchase price was allocated to acquired assets and assumed liabilities based upon their fair value at the date of acquisition. The purchase price has been allocated to assets acquired and to in-process research and development which has been charged as an expense in the AVANT consolidated financial statements for year ended December 31, 1998. Intangibles arising from the acquisition are being amortized on a straight line basis over 12 months and 60 months. The operating results of VRI from August 22, 1998 to December 31, 1998 have been included in the Company's consolidated results of operations.

The following unaudited pro forma financial summary is presented as if the operations of the Company and VRI were combined as of January 1, 1998 and 1997, respectively. The unaudited pro forma combined results are not necessarily indicative of the actual results that would have occurred had the acquisition been consummated at that date, or of the future operations of the combined entities. Nonrecurring charges, such as the acquired in-process research and development charge of $44,630,000, are not reflected in the following pro forma financial summary.

Year Ended December 31,	1998	1997	1996
Operating Revenue	$ 2,206,500	$ 3,697,600	$ 7,110,900
Net Loss	(13,389,800)	(21,311,500)	(14,011,100)
Basic and diluted net loss per share	(0.32)	(0.54)	(0.39)

Item 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURES

None.

PART III

Item 10. DIRECTORS AND EXECUTIVE OFFICERS OF THE REGISTRANT

The information under the Sections "Proposal 1 - Election of Directors" and "Management" in the Registrant's Proxy Statement for the Annual Meeting of Stockholders to be held on May 6, 1999, is hereby incorporated by reference.

Item 11. EXECUTIVE COMPENSATION

The information under the Section "Management" of the Registrant's Proxy Statement for the Annual Meeting of Stockholders to be held on May 6, 1999, is hereby incorporated by reference.

Item 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT

The information under the Section "Beneficial Ownership of Common Stock" of the Registrant's Proxy Statement for the Annual Meeting of Stockholders to be held on May 6, 1999, is hereby incorporated by reference.

Item 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS

The information under the Sections "Proposal 1 - Election of Directors" and "Management" of the Registrant's Proxy Statement for the Annual Meeting of Stockholders to be held on May 6, 1999, is hereby incorporated by reference.

PART IV

Item 14. EXHIBITS, FINANCIAL STATEMENT SCHEDULES, AND REPORTS ON FORM 8-K

(A) The following documents are filed as part of this Form 10-K:

(1) Financial Statements:

See "Index to Consolidated Financial Statements" at Item 8.

(2) Financial Statement Schedules:

Schedules are omitted since the required information is not applicable or is not present in amounts sufficient to require submission of the schedule, or because the information required is included in the Consolidated Financial Statements or Notes thereto.

(3) Exhibits:

No.	Description	Page No.
2.1	Agreement of Merger among the Company, T Cell Acquisition Corp. and T Cell Diagnostics, Inc. dated August 20, 1993 relating to reconsolidation of the Company's subsidiary	Incorporated by reference to the Company's report on form 8-K filed September 22, 1993
2.2	Asset Purchase Agreement among Endogen, Inc., T Cell Diagnostics, Inc., with the Company dated March 4, 1996	Incorporated by reference to the Company's report on form 8-K filed March 20, 1996
2.3	Agreement and Plan of Merger, dated as of May 12, 1998, by and among the Company, TC Merger Corp., Virus Research Institute, Inc.	Incorporated by reference to the Registration Statement on Form S-4 (Reg. No. 333-59215)
3.1	Third Restated Certificate of Incorporation of the Company	Incorporated by reference to the Company's Annual Report on Form 10-K for the year ended April 30, 1991
3.2	Certificate of Amendment of Third Restated Certificate of Incorporation of the Company	Incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 1992
3.3	Certificate of Designation for series C-1 Junior Participating Cumulative Preferred Stock	Incorporated by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 1994
3.4	Second Certificate of Amendment of Third Restated Certificate of Incorporation of the Company	Incorporated by reference to the Registration Statement on Form S-4 (Reg. No. 333-59215)
3.5	Amended and Restated By-Laws of the Company as of November 10, 1994	Incorporated by reference to the Company's report on Form 8-K dated November 10, 1994
4.1	Form of Purchase Agreement dated November 23, 1993 relating to the Company's private placement of Common Stock	Incorporated by reference to Exhibit 10.1 of the Company's Registration Statement on Form S-3 (Reg. No. 33-72172)
4.2	Shareholder Rights Agreement dated November 10, 1994 between the Company and State Street Bank and Trust Company as Rights Agent	Incorporated by reference to the Company's report on Form 8-K dated November 10, 1994
4.3	Form of Stock Purchase Agreement dated October 27, 1995 relating to the Company's private placement of Common Stock	Incorporated by reference to Exhibit 10.1 of the Company's Registration Statement on Form S-3 (Reg. No. 33-64021)
4.4	Form of Stock Purchase Agreement dated November 3, 1995 relating to the Company's private placement of Common Stock	Incorporated by reference to Exhibit 10.1 of the Company's Registration Statement on Form S-3 (Reg. No. 33-64021)
4.5	Form of Stock Purchase Agreement dated March 20, 1998 relating to the Company's private placement of Common Stock	Incorporated by reference to Exhibit 4.1 of the Company's Registration Statement on Form S-3 (Reg. No. 333-56755)
10.1	Amended and Restated 1991 Stock Compensation Plan dated as of April 1, 1995	Incorporate by reference to the Company's Annual Report on Form 10K for the fiscal year ended December 31, 1995
10.2	1994 Employee Stock Purchase Plan	Incorporated by reference to the Company's Registration Statement on Form S-8 filed June 8, 1994

10.3	Product Development and Distribution Agreement between Astra AB and the Company dated January 30, 1992, portions of which are subject to confidential treatment	Incorporated by reference to the Company's report on Form 8-K filed on February 13, 1992
10.4	Performance Plan of the Company	Incorporated by reference to the Company's Annual Report on Form 10-K for the transition period ended December 31, 1992
10.5	Form of Agreement relating to Change of Control	Incorporated by reference to the Company's Annual Report on Form 10-K for the transition period ended December 31, 1992
10.6	Termination Agreement between the Company and SmithKline Beecham p.l.c. relating to sCR1 dated April 7, 1995, portions of which are subject to confidential treatment	Incorporated by reference to the Company's report on Form 8-K filed April 27, 1995
10.7	Pledge Agreement between the Company and Fleet Credit Corporation dated October 24, 1995	Incorporated by reference to the Company's Quarterly Report on Form 10-Q for September dated September 30, 1995
10.8	Amended and Restated Employment Agreement between the Company and Una S. Ryan, Ph.D. dated August 20, 1998	Page 48
10.9	Severance Agreement between the Company and Norman W. Gorin dated June 1, 1996	Incorporated by reference to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 1996
10.10	Consulting Agreement between the Company and James D. Grant dated May 28, 1996	Incorporated by reference to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 1996
10.11	Second Amended and Restated Product Development and Distribution Agreement between Astra AB and the Company dated May 1, 1996, portions of which are subject to confidential treatment	Incorporated by reference to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 1996
10.12	Commercial Lease Agreement of May 1, 1997 between the Company and Fourth Avenue Ventures Limited	Incorporated by reference to the Company's report on Form 10-Q for the quarterly period ended September 30, 1996
10.13	Option Agreement by and between the Company and Novartis Pharma AG dated as of October 31, 1997, portions of which are subject to a request for confidential treatment	Incorporated by reference to the Company's report on Form 10-Q for the quarterly period ended September 30, 1997
10.14	Settlement Agreement between the Company and Forest City 38 Sidney Street, Inc.; Forest City Management, Inc.; and Forest City Enterprises, Inc.	Incorporated by reference to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 1997
21.0	List of Subsidiaries	Incorporated by reference to the Company's Annual Report on Form 10-K for the fiscal year ended December 31, 1993
23.0	Consent of Independent Accountants	Page 60
27.0	Financial Data Schedule	Page 61

(B) Reports on Form 8-K.

During 1998, the following reports on Form 8-K were filed: Form 8-K dated August 21, 1998, Form 8-K dated August 29, 1998 and Form 8-K/A dated September 29, 1998.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

AVANT IMMUNOTHERAPEUTICS, INC. Date

by: /s/UNA S. RYAN March 18, 1999
Una S. Ryan
President and Chief Executive Officer

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
/s/J. BARRIE WARD (J. Barrie Ward)	Chairman	March 18, 1999
/s/UNA S. RYAN (Una S. Ryan)	President, Chief Executive Officer and Director	March 18, 1999
/s/JAMES E. O'NEILL (James E. O'Neill)	Director of Finance	March 18, 1999
/s/FREDERICK W. KYLE (Frederick W. Kyle)	Director	March 18, 1999
/s/JOHN W. LITTLECHILD (John W. Littlechild)	Director	March 18, 1999
/s/THOMAS R. OSTERMUELLER (Thomas R. Ostermueller)	Director	March 18, 1999
/s/HARRY H. PENNER, JR. (Harry H. Penner, Jr.)	Director	March 18, 1999

Exhibit 10.8

Amended and Restated Employment Agreement between
the Company and Una S. Ryan dated August 20, 1998

AMENDED AND RESTATED EMPLOYMENT AGREEMENT

This AMENDED AND RESTATED EMPLOYMENT AGREEMENT (this "Agreement"), made as of the 20th day of August, 1998 (the "Effective Date"), by and between T Cell Sciences, Inc., a Delaware corporation with its main office in Needham, Massachusetts (the "Company") and Una S. Ryan, Ph.D. (the "Executive"), amends, restates and supersedes the Employment Agreement, dated as of May 28, 1996, by and between the Company and the Executive.

WITNESSETH

In consideration of the mutual covenants contained herein, the Company and the Executive agree as follows:

1. Employment. The Company agrees to employ the Executive and the Executive agrees to be employed by the Company on the terms and conditions hereinafter set forth.

2. Capacity. The Executive shall serve the Company as its President and Chief Executive Officer, and shall serve the Company in such other or additional offices in which the Executive may be requested to serve by the Board of Directors of the Company (the "Board"). In such capacity or capacities, the Executive shall perform such services and duties in connection with the business, affairs and operations of the Company as may be assigned or delegated to her from time to time by or under the authority of the Board.

3. Term. Subject to the provisions of Section 6, the term of employment pursuant to this Agreement (the "Term") shall be one (1) year from the Effective Date and shall be renewed automatically for periods of one (1) year commencing on the anniversary of the Effective Date and on each subsequent anniversary thereafter, unless either the Executive or the Company gives written notice to the other not less than sixty (60) days prior to the date of any such anniversary of such party's election not to extend the Term.

4. Compensation and Benefits. The regular compensation and benefits payable to the Executive under this Agreement shall be as follows:

a. Salary. For all services rendered by the Executive under this Agreement, the Company shall pay the Executive a salary (the "Salary") at the annual rate of Two Hundred Fifty Nine Thousand Five Hundred Eighty-Four Dollars ($259,584), subject to increase from time to time in the discretion of the Board or the Compensation Committee of the Board (the "Compensation Committee"). The Salary shall be payable in periodic installments in accordance with the Company's usual practice for its senior executives.

b. Bonus. The Executive shall be entitled to participate in the Performance Incentive Plan as established by the Board in accordance with and subject to the terms and conditions established in the sole discretion of the Board. The Executive will be eligible to earn up to an amount equal to thirty percent (30%) of her then current Salary each year under the Performance Incentive Plan.

c. Regular Benefits. The Executive shall be entitled to participate in any employee benefit plans, medical insurance plans, life insurance plans, disability income plans, retirement plans, vacation plans and other benefit plans which the Company may from time to time have in effect for all or most of its senior executives. Such participation shall be subject to the terms of the applicable plan documents, generally applicable policies of the Company, applicable law and the discretion of the Board, the Compensation Committee or any administrative or other committee provided for in or contemplated by any such plan. Nothing contained in this Agreement shall be construed to create any obligation on the part of the Company to establish any such plan or to maintain the effectiveness of any such plan which may be in effect from time to time.

d. Equity Incentives. The Executive shall be eligible to participate in the T Cell Sciences, Inc. Amended and Restated 1991 Stock Compensation Plan (the "Stock Plan"), as adopted by the Board and as approved by the stockholders of T Cell and as may be amended, modified or terminated from time to time, in accordance with its terms and the terms of any individual agreement regarding awards of options (incentive or nonqualified), restricted common shares, performance share units or stock equivalents under the Stock Plan entered into by and between the Company and the Executive in accordance with the Stock Plan. Nothing in this Paragraph 4(d) is intended to alter, or shall be interpreted as in any way altering, the Executive's rights under any such agreements entered into by the Executive and the Company prior to the execution of this Agreement.

e. Expenses. The Company will pay or reimburse the Executive for all transportation, hotel, meals and other out-of-pocket expenses (in each case in accordance with the Company's policies applicable to executive officers, including policies regarding documentation of expenses) reasonably incurred by the Employee in connection with her performance of services for the Company as herein provided.

f. Exclusivity of Salary and Benefits. The Executive shall not be entitled to any payments or benefits other than those provided under this Agreement.

5. Extent of Service. During the Executive's employment under this Agreement, the Executive shall, subject to the direction and supervision of the Board, devote the Executive's full business time, best efforts and business judgment, skill and knowledge to the advancement of the Company's interests and to the discharge of the Executive's duties and responsibilities under this Agreement. The Executive shall not engage in any other business activity, except as may be approved by the Board; provided, that nothing in this Agreement shall be construed as preventing the Executive from:

a. investing the Executive's assets in any company or other entity in a manner not prohibited by Section 7(e) and in such form or manner as shall not require any material activities on the Executive's part in connection with the operations or affairs of the companies or other entities in which such investments are made; or

b. engaging in religious, charitable or other community or non-profit activities that do not impair the Executive's ability to fulfill the Executive's duties and responsibilities under this Agreement.

6. Termination and Termination Benefits. Notwithstanding the provisions of Section 3, the Executive's employment under this Agreement shall terminate under the following circumstances set forth in this Section 6.

a. Termination by the Company for Cause. The Executive's employment under this Agreement may be terminated for Cause without further liability on the part of the Company effective immediately upon a vote of the Board and written notice to the Executive setting forth in reasonable detail the circumstances that the Company reasonably believes give rise to Cause for termination of the Executive's employment. Only the following shall constitute Cause for such termination:

(i) dishonest statements or acts of the Executive with respect to the Company or any affiliate of the Company;

(ii) the conviction of the Executive for, or the entry of a pleading of guilty or nolo contendere (or the equivalent) by the Executive as to (A) a felony or (B) any misdemeanor involving moral turpitude, deceit, dishonesty or fraud;

(iii) gross negligence, willful misconduct or willful insubordination of the Executive with respect to the Company or any affiliate of the Company; or

(iv) willful breach by the Executive of any of the Executive's obligations under this Agreement, which breach results in a material injury to the Company.

No act or failure to act shall be considered "willful" for this purpose unless done, or omitted to be done, by the Executive other than in good faith in the reasonable belief that such act or omission was in the best interest of the Company.

b. Termination by the Executive. The Executive's employment under this Agreement may be terminated by the Executive by written notice to the Board at least sixty (60) days prior to such termination. Upon receipt of such notice, the Company may elect to provide the Executive with pay in lieu of notice. For purposes of this Section 6(b), the Company is only required to pay the Executive an amount equal to her Salary pro rated for the period of time for which the Company waives notice.

c. Termination by the Company Without Cause. Subject to the payment of Termination Benefits pursuant to Section 6(e), the Executive's employment under this Agreement may be terminated by the Company without cause upon written notice to the Executive.

d. Change in Control. The Executive's employment under this Agreement may be terminated by the Executive for Good Reason within one (1) year of a Change in Control by written notice to the Board; provided, that the Executive shall provide the Board with written notice of any such Good Reason at least thirty (30) days in advance of a voluntary termination of employment and the Company shall have the opportunity to remedy or cure the asserted basis for any such Good Reason voluntary termination within such thirty-day period.

(i) "Change in Control" shall have the meaning set forth in Section 1.2 of the Stock Plan, without regard to the Board's right to revoke a resolution declaring that a Change in Control has occurred.

(ii) "Good Reason" shall mean:

(A) the assignment, absent the Executive's written consent, to the Executive of any duties substantially inconsistent with the Executive's position, status or authority as the Company's President and Chief Executive Officer as in effect immediately prior to the Change in Control or any alteration in the nature or status of the Executive's responsibilities to a significantly lesser position;

(B) loss, absent the Executive's written consent, of the titles President or Chief Executive Officer;

(C) the appointment, absent the Executive's written consent, of any other person as Co-President or Co-Chief Executive Officer with the Executive;

(D) material reduction in the Executive's Salary, incentive compensation, or benefits or perquisites as in effect immediately prior to the Change in Control;

(E) the relocation of the principal place of the Executive's employment after the Change in Control to a location more than 50 miles from the principal place of the Executive's employment as of the Effective Date without the Executive's written consent; or

(F) the failure by the Company to assign this Agreement to any successor pursuant to Section 14.

e. Certain Termination Benefits. Unless otherwise specifically provided in this Agreement or otherwise required by law, all compensation and benefits payable to the Executive under this Agreement shall terminate on the date of termination of the Executive's employment under this Agreement. Notwithstanding the foregoing, in the event of termination of the Executive's employment with the Company pursuant to Section 6(c) or (d) above, the Company shall provide to the Executive the following termination benefits ("Termination Benefits"):

(i) a lump sum amount equal to the Executive's annual Salary at the rate then in effect pursuant to Section 4(a);

(ii) continuation of group health plan benefits to the extent authorized by and consistent with 29 U.S.C. ss.1161 et seq. (commonly known as "COBRA"), with the cost of the regular premium for such benefits shared in the same relative proportion by the Company and the Executive as in effect on the date of termination, unless the termination of employment pursuant to Section 6(c) or 6(d) occurs within one year of a Change in Control, in which case the Company shall pay all premiums; and

(iii) a mutually agreed upon press release announcing the termination of the Executive's employment and mutually agreed upon written reference from the Company for the Executive.

The Termination Benefits set forth in (ii) above shall continue for twelve (12) months after the date of termination so long as the Executive otherwise remains eligible for continuation under COBRA. Nothing in this Section 6(e) shall be construed to affect the Executive's right to receive COBRA continuation entirely at the Executive's own cost to the extent that the Executive may continue to be entitled to COBRA continuation after the Executive's right to cost sharing under Section 6(e)(ii) ceases. It is the intention of the Executive and of the Company that no payments by the Company to or for the benefit of the Executive under this Agreement or any other agreement or plan, if any, pursuant to which the Executive is entitled to receive payments or benefits shall be nondeductible to the Company by reason of the operation of Section 280G of the Internal Revenue Code ("Code") relating to parachute payments or any like statutory or regulatory provision. Accordingly, and notwithstanding any other provision of this Agreement or any such agreement or plan, if by reason of the operation of said Section 280G or any like statutory or

regulatory provision, any such payments exceed the amount which can be deducted by the Company, such payments shall be reduced to the maximum amount which can be deducted by the Company. To the extent that payments exceeding such maximum deductible amount have been made to or for the benefit of the Executive, such excess payments shall be refunded to the Company with interest thereon at the applicable Federal rate determined under Section 1274(d) of the Internal Revenue Code, compounded annually, or at such other rate as may be required in order that no such payments shall be nondeductible to the Company by reason of the operation of said Section 280G or any like statutory or regulatory provision. To the extent that there is more than one method of reducing the payments to bring them within the limitations of said Section 280G or any like statutory or regulatory provision, the Executive shall determine which method shall be followed, provided that if the Executive fails to make such determination within forty-five (45) days after the Company has given notice of the need for such reduction, the Company may determine the method of such reduction in its sole discretion.

f. Disability. If the Executive shall be disabled so as to be unable to perform the essential functions of the Executive's then existing position or positions under this Agreement with or without reasonable accommodation, the Board may remove the Executive from any responsibilities and/or reassign the Executive to another position with the Company for the remainder of the Term or during the period of such disability. If the period of disability extends for more than six (6) months, the Company may terminate the Executive's employment without further liability on the part of the Company. If any question shall arise as to whether during any period the Executive is disabled so as to be unable to perform the essential functions of the Executive's then existing position or positions with or without reasonable accommodation, the Executive may, and at the request of the Company shall, submit to the Company a certification in reasonable detail by a physician selected by the Company to whom the Executive or the Executive's guardian has no reasonable objection as to whether the Executive is so disabled or how long such disability is expected to continue, and such certification shall for the purposes of this Agreement be conclusive of the issue. The Executive shall cooperate with any reasonable request of the physician in connection with such certification. If such question shall arise and the Executive shall fail to submit such certification, the Company's determination of such issue shall be binding on the Executive. Nothing in this Section 6(f) shall be construed to waive the Executive's rights, if any, under existing law including, without limitation, the Family and Medical Leave Act of 1993, 29 U.S.C. ss.2601 et seq., the Americans with Disabilities Act, 42 U.S.C.
ss.12101 et seq., and Mass.Gen.L. ch. 151B.

g. Death or Retirement. The Executive's employment under this Agreement will be deemed to have terminated without further liability on the part of the Company if the Executive dies or retires.

7. Confidential Information, Noncompetition and Assignment.

a. Confidential Information. As used in this Agreement, "Confidential Information" means information belonging to the Company which is of value to the Company in the course of conducting its business and the disclosure of which could result in a competitive or other disadvantage to the Company. Confidential Information includes, without limitation, financial information, reports, and forecasts; inventions, improvements and other intellectual property; trade secrets; know-how; designs, processes or formulae; research data or results, inventions, cell lines or products; software; market or sales information or plans; customer lists; and business plans, prospects and opportunities (such as possible acquisitions or dispositions of businesses or facilities) which have been discussed or considered by the management of the Company. Confidential Information includes information developed by the Executive in the course of the Executive's employment by the Company, as well as other information to which the Executive may have access in connection with the Executive's employment. Confidential Information also includes the confidential information of others with which the Company has a business relationship. Notwithstanding the foregoing, Confidential Information does not include information in the public domain, unless due to breach of the Executive's duties under Section 7(a). The Executive understands and agrees that the Executive's employment creates a relationship of confidence and trust between the Executive and the Company with respect to all Confidential Information. At all times, both during the Executive's employment with the Company and after its termination, the Executive will keep in confidence and trust all such Confidential Information, and will not use or disclose any such Confidential Information without the written consent of the Company, except as may be necessary in the ordinary course of performing the Executive's duties to the Company.

b. Assignment of Rights. Any and all information, data, inventions, discoveries, materials, notebooks and other work product which the Executive conceives, develops or acquires during her employment with the Company or within six (6) months after the termination of Executive's employment with the Company, which directly or indirectly relates to work performed for the Company shall be the sole and exclusive property of the Company. The Executive shall promptly execute any and all documents necessary and take such further actions as the Company may deem necessary to assign any and all of the Executive's right, title and interest in such property to the Company. The Executive may publish research results after the Company, in its sole discretion, has reviewed, for purposes of determining patentability and maintaining trade secrets, and has approved the proposed publication.

c. Intellectual Property. During the Executive's employment at the Company, the Executive shall promptly assist with and execute any and all applications, assignments or other documents which an officer or director of the Company shall deem necessary or useful in order to obtain and maintain patent, trademark or other intellectual property protection for the Company's products or services. After the termination date of her employment with the Company, the Executive shall use reasonable efforts to assist the Company on intellectual property matters as they relate to her employment, and the Company shall reasonably compensate the Executive for her time and expense.

d. Documents, Records, etc. All documents, records, data, apparatus, equipment and other physical property, whether or not pertaining to Confidential Information, which are furnished to the Executive by the Company or are produced by the Executive in connection with the Executive's employment will be and remain the sole property of the Company. The Executive will return to the Company all such materials and property as and when requested by the Company. In any event, the Executive will return all such materials and property immediately upon termination of the Executive's employment for any reason. The Executive will not retain with the Executive any such material or property or any copies thereof after such termination.

e. Noncompetition and Nonsolicitation. During the Term and for one (1) year thereafter, the Executive (i) will not, directly or indirectly, whether as owner, partner, shareholder, consultant, agent, employee, co-venturer or otherwise, engage, participate, assist or invest in any Competing Business (as hereinafter defined); (ii) will refrain from directly or indirectly employing, attempting to employ, recruiting or otherwise soliciting, inducing or influencing any person to leave employment with the Company (other than terminations of employment of subordinate employees undertaken in the course of the Executive's employment with the Company); and (iii) will refrain from soliciting or encouraging any customer or supplier to terminate or otherwise modify adversely its business relationship with the Company. The Executive understands that the restrictions set forth in this Section 7(e) are intended to protect the Company's interest in its Confidential Information and established employee, customer and supplier relationships and goodwill, and agrees that such restrictions are reasonable and appropriate for this purpose.

For purposes of this Agreement, the term "Competing Business" shall mean a business enterprise, whether for profit or not for profit, engaged in the research, development or marketing of products or services in or relating to T Cell antigen receptor, complement receptor or other technology fields or businesses in which the Company is engaged or the Company has investigated entering within one year prior to termination of the Executive's employment. Notwithstanding the foregoing, the Executive may own up to one percent (1%) of the outstanding stock of a publicly held corporation which constitutes or is affiliated with a Competing Business. The Executive may request the Company to waive, and the Company, in its sole discretion, may waive its rights under this Subsection 7(e).

8. Third-Party Agreements and Rights. The Executive hereby confirms that the Executive is not bound by the terms of any agreement with any previous Company or other party which restricts in any way the Executive's use or disclosure of information or the Executive's engagement in any business. The Executive represents to the Company that the Executive's execution of this Agreement, the Executive's employment with the Company and the performance of the Executive's proposed duties for the Company will not violate any obligations the Executive may have to any such previous Company or other party. In the

Executive's work for the Company, the Executive will not disclose or make use of any information in violation of any agreements with or rights of any such previous Company or other party, and the Executive will not bring to the premises of the Company any copies or other tangible embodiments of non-public information belonging to or obtained from any such previous employment or other party.

9. Litigation and Regulatory Cooperation. During and for six (6) years after the Executive's employment, the Executive shall cooperate fully with the Company in the defense or prosecution of any claims or actions now in existence or which may be brought in the future against or on behalf of the Company which relate to events or occurrences that transpired while the Executive was employed by the Company. The Executive's full cooperation in connection with such claims or actions shall include, but not be limited to, being available to meet with counsel to prepare for discovery or trial and to act as a witness on behalf of the Company at mutually convenient times. During and for six (6) years after the Executive's employment, the Executive also shall cooperate fully with the Company in connection with any investigation or review of any federal, state or local regulatory authority as any such investigation or review relates to events or occurrences that transpired while the Executive was employed by the Company. The Company shall reimburse the Executive for any reasonable out-of-pocket expenses incurred in connection with the Executive's performance of her obligations pursuant to this Section 9. The Company shall pay the Executive at the rate of $300 per hour (said rate to be adjusted for inflation from and after 1998 based on then applicable Department of Labor indices for determining inflation rates in the Boston metropolitan area) for all time spent in the performance of her obligations pursuant to this Section 9 following the termination of her employment, other than time spent actually testifying under oath or directly responding to questions by governmental agents.

10. Injunction. The Executive agrees that it would be difficult to measure any damages caused to the Company which might result from any breach by the Executive of the promises set forth in Section 7, and that in any event money damages would be an inadequate remedy for any such breach. Accordingly, subject to Section 11 of this Agreement, the Executive agrees that if the Executive breaches, or proposes to breach, any portion of this Agreement, the Company shall be entitled, in addition to all other remedies that it may have, to an injunction or other appropriate preliminary equitable relief to restrain any such breach without showing or proving any actual damage to the Company.

11. Arbitration of Disputes. Any controversy or claim arising out of or relating to this Agreement or the breach thereof or otherwise arising out of the Executive's employment or the termination of that employment (including, without limitation, any claims of unlawful employment discrimination whether based on age or otherwise) shall, to the fullest extent permitted by law, be settled by arbitration in any forum and form agreed upon by the parties or, in the absence of such an agreement, under the auspices of the American Arbitration Association ("AAA") in Boston, Massachusetts in accordance with the Employment Dispute Resolution

Rules of the AAA, including, but not limited to, the rules and procedures applicable to the selection of arbitrators, except that the arbitrator shall apply the law as established by decisions of the U.S. Supreme Court, the Court of Appeals for the First Circuit, the U.S. District Court for the District of Massachusetts and the Supreme Judicial Court of the Commonwealth of Massachusetts in deciding the merits of claims and defenses under state or federal law as applicable to the claims raised, including any state or federal anti-discrimination law. In the event that any person or entity other than the Executive or the Company may be a party with regard to any such controversy or claim, such controversy or claim shall be submitted to arbitration subject to such other person or entity's agreement. Judgment upon the award rendered by the arbitrator may be entered in any court having jurisdiction thereof. This Section 11 shall be specifically enforceable. Notwithstanding the foregoing, this Section 11 shall not preclude either party from pursuing a court action for the sole purpose of obtaining a temporary restraining order or other preliminary equitable relief in circumstances in which such relief is appropriate, including, without limitation, pursuant to Section 10; provided, that any other relief shall be pursued through an arbitration proceeding pursuant to this Section 11.

12. Consent to Jurisdiction. To the extent that any court action is permitted consistent with or requested to enforce Section 7, 10 or 11 of this Agreement, the parties hereby consent to the jurisdiction of the Superior Court of the Commonwealth of Massachusetts and the United States District Court for the District of Massachusetts. Accordingly, with respect to any such court action, the parties (a) submit to the personal jurisdiction of such courts; (b) consent to service of process; and (c) waive any other requirement (whether imposed by statute, rule of court, or otherwise) with respect to personal jurisdiction or service of process.

13. Taxation. All payments and benefits hereunder shall be subject to appropriate tax withholding and reporting, as determined by the Company.

14. Integration. This Agreement constitutes the entire agreement between the parties with respect to the subject matter hereof and supersedes all prior agreements between the parties with respect to any related subject matter.

15. Assignment; Successors and Assigns, Etc. Neither the Company nor the Executive may make any assignment of this Agreement or any interest herein, by operation of law or otherwise, without the prior written consent of the other party; provided, that the Company may assign its rights under this Agreement without the consent of the Executive in the event that the Company shall effect a reorganization, consolidate with or merge into any other corporation, partnership, organization or other entity, or transfer all or substantially all of its properties or assets to any other corporation, partnership, organization or other entity. This Agreement shall inure to the benefit of and be binding upon the Company and the Executive, their respective successors, executors, administrators, heirs and permitted assigns.

16. Enforceability. If any portion or provision of this Agreement (including, without limitation, any portion or provision of any section of this Agreement) shall to any extent be declared illegal or unenforceable by a court of competent jurisdiction, then the remainder of this Agreement, or the application of such portion or provision in circumstances other than those as to which it is so declared illegal or unenforceable, shall not be affected thereby, and each portion and provision of this Agreement shall be valid and enforceable to the fullest extent permitted by law.

17. Waiver. No waiver of any provision hereof shall be effective unless made in writing and signed by the waiving party. The failure of any party to require the performance of any term or obligation of this Agreement, or the waiver by any party of any breach of this Agreement, shall not prevent any subsequent enforcement of such term or obligation or be deemed a waiver of any subsequent breach.

18. Notices. Any notices, requests, demands and other communications provided for by this Agreement shall be sufficient if in writing and delivered in person or sent by a nationally recognized overnight courier service or by registered or certified mail, postage prepaid, return receipt requested, to the Executive at the last address the Executive has filed in writing with the Company or, in the case of the Company, at its main offices, attention of the Chief Executive Officer, and shall be effective on the date of delivery in person or by courier or three (3) days after the date mailed.

19. Amendment. This Agreement may be amended or modified only by a written instrument signed by the Executive and by a duly authorized representative of the Company.

20. Governing Law. This is a Massachusetts contract and shall be construed under and be governed in all respects by the laws of the Commonwealth of Massachusetts, without giving effect to the conflict of laws principles of such Commonwealth.

21. Counterparts. This Agreement may be executed in any number of counterparts, each of which when so executed and delivered shall be taken to be an original; but such counterparts shall together constitute one and the same document.

IN WITNESS WHEREOF, this Agreement has been executed as a sealed instrument by the Company, by its duly authorized officer, and by the Executive, as of the Effective Date.

T CELL SCIENCES, INC.

8/20/98 By: /s/ Thomas R. Ostermueller
- ----------
Date Thomas Ostermueller, Director and Chairman, Compensation Committee

8/20/98 /s/ Una S. Ryan
- ----------
Date Executive

Exhibit 23.0

Consent of Independent Accountants

We hereby consent to the incorporation by reference in the Registration Statement on Form S-8 (Nos. 33-43640, 33-54372, 33-80036, 33-80048 and 333-62017), in the Prospectus constituting part of the Registration Statement on Form S-3 (Nos. 33-72172, 33-69950, 33-64021, 333-08607, 333-56755 and 333-64761) and in the Prospectus consituting part of the Registration Statement on Form S-4 (No. 333-59215) of AVANT Immunotherapeutics, Inc. (f/k/a T Cell Sciences, Inc.) of our report dated March 12, 1999 appearing in the Annual Report on Form 10-K for the year ended December 31, 1998.

/s/ PricewaterhouseCoopers LLP
Boston, Massachusetts
March 18, 1999

This schedule contains summary financial information extracted from the condensed financial statements of AVANT Immunotherapeutics, Inc. for the Twelve Months Ended December 31, 1998 and is qualified in its entirety by reference to such financial statements.

U.S. DOLLARS

12-MOS	
DEC-31-1998	
JAN-01-1998	
DEC-31-1998	
1	
8,937,200	
4,903,100	
11,200	
0	
6,100	
15,615,700	
4,021,800	
(2,910,400)	
22,650,100	
3,317,600	
0	
0	
0	
42,500	
18,727,100	
22,650,100	
55,900	
2,150,400	
22,300	
54,687,600	
(187,900)	
0	
(571,900)	
(51,799,700)	
0	
(51,799,700)	
0	
0	
0	
(51,799,700)	
(1.56)	
(1.56)	