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File No. 333-56755

PROSPECTUS

AVANT IMMUNOTHERAPEUTICS, INC.
(f/k/a T Cell Sciences, Inc.)

1,968,494 Shares of Common Stock

This Prospectus relates to 1,968,494 shares (the "Shares") of common stock, par value $.001 per share (the "Common Stock"), of Avant Immunotherapeutics, Inc. (the "Company," formerly "T Cell Sciences, Inc.") to be sold by certain stockholders of the Company (the "Selling Stockholders") from time to time. The Selling Stockholders may sell the Shares from time to time in transactions on the Nasdaq National Market System, in negotiated transactions or by a combination of these methods, at fixed prices that may be changed, at market prices at the time of sale, at prices related to market prices or at negotiated prices. The Selling Stockholders may effect these transactions by selling the Shares to or through broker-dealers, who may receive compensation in the form of discounts or commissions from the Selling Stockholders or from the purchasers of the Shares for whom the broker-dealers may act as an agent or to whom they may sell as a principal, or both. See "Selling Stockholders" and "Plan of Distribution." The Common Stock of the Company is traded under the symbol "AVAN" on the Nasdaq National Market. On June 9, 1998, the reported closing price for the Common Stock on the Nasdaq National Market was $2.875.

The Company will not receive any of the proceeds from the sale of the Shares. The Company has agreed to bear all of the expenses in connection with the registration and sale of the Shares (other than underwriting discounts and selling commissions).

See "Risk Factors" beginning on page 3 for a discussion of certain special factors which should be considered by prospective investors in purchasing the shares of Common Stock offered hereby.

THESE SECURITIES HAVE NOT BEEN APPROVED OR DISAPPROVED BY THE COMMISSION NOR HAS THE COMMISSION OR ANY STATE SECURITIES COMMISSION PASSED UPON THE ACCURACY OR ADEQUACY OF THIS PROSPECTUS. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

The date of this Prospectus is September 8, 1998

AVAILABLE INFORMATION

The Company has filed with the Securities and Exchange Commission (the "Commission"), Washington, D.C. 20549, a Registration Statement (which term shall include all amendments, exhibits and schedules thereto) on Form S-3 under the Securities Act of 1933 (the "Securities Act") with respect to the shares of Common Stock offered hereby. This Prospectus, which constitutes a part of the Registration Statement, does not contain all of the information set forth in the Registration Statement, certain parts of which are omitted in accordance with the rules and regulations of the Commission, to which Registration Statement reference is hereby made. For further information with respect to the Company and the securities covered hereby, reference is made to the Registration Statement and to the exhibits thereto filed as a part thereof. The Registration Statement and the exhibits thereto may be inspected and copied at prescribed rates at the public reference facilities maintained by the Commission at Room 1024, Judiciary Plaza, 450 Fifth Street, N.W., Washington, D.C. 20549 and at the regional offices of the Commission located at Seven World Trade Center, 13th Floor, New York, New York 10048 and 500 West Madison Street, Suite 1400, Chicago, Illinois 60661, and copies may be obtained at the prescribed rates from the Public Reference section of the Commission at its principal office in Washington, D.C. The Commission also maintains a Web site at http://www.sec.gov containing reports, proxy and information statements and other information

regarding registrants, including the Company, that file electronically with the Commission. Statements made in this Prospectus as to the contents of any contract, agreement or other document referred to are not necessarily complete. With respect to each such contract, agreement or other document filed as an exhibit to the Registration Statement, reference is made to the exhibit for a more complete description of the matter involved, and each such statement shall be deemed qualified in its entirety by such reference.

The Company is subject to the informational requirements of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), and, in accordance therewith, files proxy statements, reports and other information with the Commission. Such proxy statements, reports and other information filed by the Company may be inspected and copied at prescribed rates at the aforementioned public reference facilities maintained by the Commission. The Common Stock of the Company is traded on the Nasdaq National Market System. Reports and other information concerning the Company may be inspected at the National Association of Securities Dealers, Inc., 1735 K Street, N.W., Washington, D.C. 20006.

INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The following documents filed by the Company with the Commission are incorporated in, and made a part of, this Prospectus by reference as of their respective dates: (1) the Company's Annual Report on Form 10-K and 10-K/A for the fiscal year ended December 31, 1997; (2) the Company's Quarterly Report on Form 10-Q and 10-Q/A for the quarter ended March 31, 1998; (3) the definitive Proxy Statement of the Company for the Annual Meeting of Stockholders held May 12, 1998; (4) the Company's Quarterly Report on Form 10-Q for the quarter ended June 30, 1998; (5) the Company's Current Report on Form 8-K, filed on August 21, 1998; (6) the Company's Current Report on Form 8-K, filed on August 28, 1998; and (7) the description of the Common Stock of the Company contained in the Company's Registration Statement on Form 8-A, filed on September 22, 1986, including all amendments and reports updating such description.

Each document filed subsequent to the date of this Prospectus pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act prior to the termination of this offering shall be deemed to be incorporated by reference in this Prospectus and shall be a part hereof from the date of filing of such document. The Company will furnish without charge to each person, including any beneficial owner, to whom this Prospectus is delivered, upon request, a copy of any or all of the documents that have been incorporated by reference to the Registration Statement of which this Prospectus is a part, other than exhibits to such documents. Requests should be addressed to: Avant Immunotherapeutics, Inc., 119 Fourth Avenue, Needham, Massachusetts 02194, Attention: Corporate Secretary (telephone number (781) 433-0771).

This Prospectus, including the information incorporated herein by reference, contains forward-looking statements within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act. The Company's actual results could differ materially from those projected in the forward-looking statements set forth in this Prospectus including the information incorporated herein by reference. Investors should carefully consider the discussion of risk factors below, in addition to the other information contained in this Prospectus, in connection with an investment in the Shares offered hereby.

RISK FACTORS

In addition to the other information contained or incorporated by reference in this Prospectus, the following factors should be considered carefully in evaluating an investment in the shares of Common Stock offered by this Prospectus.

THE PURCHASE OF THE SHARES OF COMMON STOCK ENTAILS VERY SIGNIFICANT RISKS INCLUDING THE FOLLOWING FACTORS WHICH SHOULD BE CONSIDERED CAREFULLY IN EVALUATING AN INVESTMENT IN THE SHARES OF COMMON STOCK OFFERED BY THIS MEMORANDUM:

Early Stage of Product Development; Uncertainties Relating to Clinical Trials and Product Development. All of the Company's therapeutic product candidates are in various stages of research and development and no revenues have been generated from the commercialization of these products. There can be no assurance that any of the Company's therapeutic product candidates which are under development will prove to be safe or effective in clinical trials, will be approved by regulatory authorities, can be manufactured at acceptable cost with appropriate quality, or can be successfully marketed. The Company's therapeutic product candidates will require substantial additional development, including in the areas of preclinical and clinical testing, regulatory approvals and manufacturing processes prior to their commercialization. The Company has performed only limited preclinical and clinical testing of certain of its product candidates and technologies under development. Preclinical studies of product candidates may not predict and do not ensure safety or efficacy in humans and are not necessarily indicative of the results that may be achieved in clinical trials with humans. There can be no assurance that unacceptable side effects will not be discovered during preclinical and clinical testing of the Company's potential products. Even after being cleared by the United States Food and Drug Administration (the "FDA") or the regulatory authorities of other countries, a product may later be shown to be unsafe or to not have its purported effect, thereby preventing its widespread use or requiring its withdrawal from the market. The rate of completion of the Company's clinical trials depends on, among other factors, the rate of patient enrollment. Patient enrollment is a function of many factors, including the size of the patient population, the nature of the clinical protocol, the proximity of patients to clinical sites and the eligibility criteria for the trial. Delays in planned patient enrollment may result in increased costs, delays or termination of clinical trials, which could have a material adverse effect on the Company's business, financial condition and results of operations. In addition, the Company may rely on third parties to assist it in overseeing and monitoring clinical trials, which may result in delays in completing, or failure to complete, clinical trials if such third parties fail to perform under their agreements with the Company or fail to meet regulatory standards in the performance of their obligations under such agreements.

History of Losses; Uncertainty of Future Profitability. The Company has incurred operating losses since its inception and had accumulated net losses of approximately $71.7 million as of March 30, 1998. The continued development of the Company's products will require the commitment of substantial resources to conduct research and preclinical and clinical programs, to establish manufacturing capabilities and sales and marketing capabilities, and to establish additional quality control, regulatory and administrative capabilities. The Company may incur substantial operating losses over the next several years as its product development programs and clinical testing expand. The amount of net losses and the time required by the Company to reach sustained profitability are highly uncertain and to achieve profitability the Company must, among other things, successfully complete development of its products, obtain regulatory approvals and establish manufacturing and

marketing capabilities. There can be no assurance that the Company will be able to achieve profitability at all or on a sustained basis.

Need for Additional Funds. The Company has funded its operations and capital expenditures to date primarily through equity financing, strategic alliances with commercial partners, and sales of reagent and diagnostic products. As of March 31, 1998, the Company has raised net proceeds of approximately $80.3 million through equity financings. The Company anticipates that it will need to raise substantial additional funds, through additional equity or debt financings, research and development financings, collaborative relationships or otherwise, prior to the commercialization of its products. There can be no assurance that any such additional funding will be available to the Company or, if available, that it will be on reasonable terms. Any such additional funding may result in significant dilution to existing stockholders. If adequate funds are not available, the Company may be required to significantly curtail its research and development programs or obtain funds through arrangements with collaborative partners that may require the Company to relinquish certain material rights to its products.

Dependence on Third Parties for Clinical Supplies. The Company is dependent on sourcing from a third party manufacturer for suitable quantities of sCR1 and other materials necessary for clinical trials in addition to those currently being conducted by the Company. The inability to have suitable quality and quantities of material produced in a timely manner would result in significant delays in the clinical development and sale of products, which could adversely affect the Company's business, financial condition and results of operations.

No Assurance of FDA Approval; Comprehensive Government Regulation. The Company's research, development and clinical programs are subject to extensive regulation by numerous governmental authorities in the United States and other countries. Most of the Company's products will require governmental approvals for commercialization which have not yet been obtained and are not expected to be obtained for several years. Preclinical and clinical trials and manufacturing and marketing of many of the Company's products will be subject to the rigorous testing and approval processes of the FDA and corresponding foreign regulatory authorities. The regulatory process, which includes preclinical, clinical and post-clinical testing of many of the Company's products to establish their safety and efficacy, can take many years and requires the expenditure of substantial resources. Data obtained from preclinical and clinical activities are susceptible to varying interpretations which could delay, limit or prevent regulatory approval. In addition, delays or rejection may be encountered based upon changes in, or additions to, regulatory policies for drug approval during the period of product development and regulatory review, which may result in limitations or restrictions on the Company's ability to utilize its technology or develop its products. Delays in obtaining such approvals could adversely affect the marketing of products developed by the Company and the Company's ability to generate commercial product revenues. There can be no assurance that requisite regulatory approvals will be obtained within a reasonable period of time, if at all, or that the Company will not encounter problems in clinical trials that will cause the Company or governmental authorities to delay or suspend such trials. Moreover, if regulatory approval of a product is granted, such approval may impose limitations on the indicated uses for which such product may be marketed which may restrict the patient population for which any product may be prescribed. Further, even if such regulatory approval is obtained, a marketed product, its manufacturer and its manufacturing facilities are subject to continuing review and periodic inspections, and later discovery of previously unknown problems with a product, manufacturer or facility may result in restrictions on such product or manufacturer, including withdrawal of the product from the market. Failure to comply with the applicable regulatory requirements can, among other things, result in fines, suspensions of regulatory approvals, product recalls, operating restrictions and criminal prosecution.

To commercialize any product and prior to submitting the application for marketing approval in the United States, the Company must sponsor and file an Investigational New Drug application ("IND") for each proposed product and must be responsible for initiating and overseeing the clinical studies to demonstrate the safety and efficacy that are necessary to obtain FDA approval of such product. There can be no assurance that the Company will be able to obtain the necessary clearances for clinical trials or approvals for manufacturing

or marketing any of its product candidates. After completion of clinical trials of a new product, FDA marketing approval must be obtained. At that time, the Company must submit relevant data, including the results of product development activities, preclinical studies and clinical trials, in addition to detailed manufacturing information. Notwithstanding the submission of relevant data, the FDA may withhold marketing approval and may require additional clinical trials.

Dependence on Manufacturing, Sales, Distribution and Marketing Partners. To be successful, the Company's products must be manufactured in commercial quantities, within regulatory requirements and at competitive costs. There can be no assurance that the Company will be able to obtain access to suitable product manufacturing facilities. Except for research reagents and certain diagnostic products, the Company has limited experience in sales, marketing and distribution of commercial products. To market any of its products directly, the Company must develop a substantial marketing and sales force with technical expertise and a supporting distribution capability. There can be no assurance that the Company will be able to establish sales and distribution capabilities without undue delays or expenditures or that it will be successful in gaining market acceptance for its products. The Company may also enter into strategic partnerships for the manufacturing, sales, distribution and marketing of its products. There can be no assurance the Company will be able to enter into successful strategic partnership agreements on terms acceptable to the Company, if at all.

Competition and Risk of Technological Obsolescence. Biotechnology, pharmaceuticals and therapeutics are rapidly evolving fields in which developments are expected to continue at a rapid pace. Competitors of the Company in the United States and abroad are numerous and include, among others, pharmaceuticals, therapeutics and biotechnology companies as well as universities and other research institutions. The Company's success depends upon developing and maintaining a competitive position in the development of products and technologies in its area of focus. Competition from other biotechnology, pharmaceuticals and therapeutics companies is intense and expected to increase as new products enter the market and new technologies become available. The Company's competitors may also succeed in developing technologies and products that are more effective than any which have been or are being developed by the Company or that render the Company's technologies or products obsolete or noncompetitive. The Company's competitors may also succeed in obtaining patent protection or other intellectual property rights that would block the Company's ability to develop its potential products, or in obtaining regulatory approval for the commercialization of their products more rapidly or effectively than the Company. Finally, many of these competitors have substantially greater research and development capabilities, clinical, manufacturing, regulatory and marketing experience and financial and managerial resources than the Company.

Dependence on Patents and Proprietary Technology. The Company's success will depend in part on the ability of the Company and its licensors to obtain and maintain patent protection for the Company's technology and to preserve its trade secrets and operate without infringing on the proprietary rights of others, both in the United States and in other countries. The failure of the Company or its licensors to obtain and maintain patent protection for the Company's technology could have a material adverse effect on the Company's business, financial condition and results of operations. Patent positions in the biotechnology field are highly uncertain and involve complex legal, scientific and factual questions. To date, there has emerged no consistent policy regarding the breadth of claims allowed in biotechnology patents, particularly in regard to human therapeutic uses. There can be no assurance that patent applications relating to the technology used by the Company will result in patents being issued or that, if issued, the patent will not be subjected to further proceedings limiting the scope of the rights under the patent or that such patent will provide a competitive advantage or will afford protection against competitors with similar technology, or will not be challenged successfully, invalidated or circumvented by competitors. Moreover, because patent applications in the United States are maintained in secrecy until patents issue and patent applications in certain other countries generally are not published until more than 18 months after they are filed, and since publication of discoveries in scientific or patent literature often lags behind actual discoveries, the Company cannot be certain that it or any licensor was the first creator of inventions covered by pending patent applications or that it or such licensor was the first to file patent applications for such inventions. In addition, the Company could incur substantial costs in

defending itself in suits brought against it or in suits in which the Company may assert its patents against others. If the outcome of any such litigation is adverse to the Company, the Company's business, financial condition and results of operations could be materially adversely affected. In addition to any potential liability for significant damages, the Company may be required to obtain licenses to patents or other proprietary rights of third parties. Costs associated with any licensing arrangement may be substantial and could include ongoing royalties. No assurance can be given that any licenses required under any such patents or proprietary rights would be made available on terms acceptable to the Company, if at all. If the Company does not obtain such licenses, it could encounter delays in product market introductions while it attempts to design around such patents or other rights, or be prevented from manufacturing and marketing such products. In either case, the failure to obtain such licenses on acceptable terms, if at all, could have a material adverse effect on the Company's business, financial condition and results of operations.

The Company also seeks to protect its proprietary technology, including technology which may not be patented or patentable, in part by confidentiality agreements and, if applicable, inventors' rights agreements with its collaborators, advisors, employees and consultants. There can be no assurance that these agreements will not be breached, that the Company will have adequate remedies for any breach, or that the Company's trade secrets will not otherwise be disclosed to, or discovered by, competitors. Moreover, the Company conducts a significant amount of research through academic advisors and collaborators who are prohibited from entering into confidentiality or inventors' rights agreements by their academic institutions.

Dependence on Reimbursement. In both the United States and elsewhere, sales, if any, of most of the Company's products will be dependent in part on the availability of reimbursement from third party payors, such as government and private insurance plans. Third party payors are increasingly challenging the prices charged for medical products and services. Moreover, the federal government of the United States has made the containment of health care costs a top priority. If the Company succeeds in bringing one or more products to market, there can be no assurance that these products will be considered cost-effective, that reimbursement will be available or, if available, that the level of reimbursement will be sufficient to allow the Company to sell its products on a profitable basis.

Exposure to Product Liability Claims. The Company's business exposes it to inherent risks of product liability claims, product recalls and associated adverse publicity which are inherent in the testing, manufacturing, marketing and sale of human therapeutic products. The Company currently has liability insurance of limited coverage. There can be no assurance that it will be able to maintain such insurance or obtain general product liability insurance on acceptable terms or at reasonable costs or that such insurance will be in sufficient amounts to provide the Company with adequate coverage against potential liabilities. A product liability claim or product recall could inhibit or prevent commercialization of products being developed by the Company. Any product liability claim or product recall could have a material adverse effect on the Company's business, financial condition and results of operations.

Health Care Reform. The health care industry in the United States and in Europe is undergoing fundamental changes as the result of political, economic and regulatory influences. Reforms proposed from time to time include mandated basic health care benefits, controls on health care spending through limitations on the growth of private health insurance premiums and Medicare and Medicaid spending, the creation of large insurance purchasing groups and fundamental changes to the health care delivery system. The Company anticipates that alternative health care delivery systems and methods of payment will continue to be reviewed and assessed, and public debate of these issues will likely continue. The Company cannot predict whether any reform initiatives will result or, if adopted, what impact they might have on the Company, and there can be no assurance that the adoption of reform proposals will not have a material adverse effect on the Company's business, financial condition and results of operations. Announcements of reform proposals and the investment community's reaction to such proposals, announcements by competitors and third-party payors of their strategy in responding to reform initiatives, and general industry conditions could produce volatility in the trading and market price of the Common Stock.

Hazardous Materials; Environmental Matters. The Company's research and development activities involve the controlled use of hazardous materials, chemicals, biological materials and radioactive compounds. The Company is subject to federal, state and local laws and regulations governing the use, manufacture, storage, handling and disposal of such materials and certain waste products. Although the Company believes that its safety procedures for handling and disposing of such materials comply with the standards prescribed by such laws and regulations, the risk of accidental contamination or injury from these materials cannot be completely eliminated. In the event of such an accident, the Company could be held liable for any resulting damages, and any such liability could exceed the Company's resources. The Company may be required to incur significant costs to comply with environmental laws and regulations in the future. Current or future environmental laws or regulation may have a material adverse effect on the Company's business, financial condition and results of operations.

Dependence Upon Key Personnel. The Company is dependent on the members of its management and scientific staff, the loss of one or more of whom could have a material adverse effect on the Company. The Company also depends on its scientific collaborators and advisors, all of whom have commitments that may limit their availability to the Company. In addition, the Company believes that its future success will depend in large part upon its ability to attract and retain highly skilled scientific, managerial and marketing personnel, particularly as the Company expands its activities in clinical trials, the regulatory approval process and sales and manufacturing. The Company faces significant competition for such personnel from other companies, research and academic institutions, government entities and other organizations. There can be no assurance that the Company will be successful in hiring or retaining the personnel it requires for continued growth. The failure to hire and retain such personnel could materially and adversely affect the Company's future business, financial condition and results of operations.

Liquidity; Shares Eligible for Future Sale. The Shares offered for sale hereby have not been registered under the Securities Act or any state securities laws, and as a result, they may not be transferred or resold except as permitted under the Act and applicable state securities laws pursuant to registration or an exemption therefrom. The Company has agreed to file with the Securities and Exchange Commission a registration statement for the resale from time to time of the Shares by purchasers thereof.

Future sales of Common Stock in the public market by existing stockholders could have an adverse effect on the price of the Common Stock. In addition, the Company has registered the shares of Common Stock to be issued under its 1985 Incentive Stock Option Plan and its Amended and Restated 1991 Stock Compensation Plan on a Registration Statement on Form S-8 and approximately 2.0 million shares of Common Stock are presently eligible for sale upon exercise of currently outstanding options.

Volatility of Stock Price. The market price of the shares of the Common Stock, like that of the common stock of many other early-stage biotechnology companies, may be highly volatile. Factors such as announcements of technological innovations or new commercial products by the Company or its competitors, disclosure of results of clinical testing or regulatory proceedings, governmental regulation and approvals, developments in patent or other proprietary rights, public concern as to the safety of products developed by the Company and general market conditions may have a significant effect on the market price of the Common Stock. In addition, the stock market has experienced and continues to experience extreme price and volume fluctuations which have effected the market price of many biotechnology companies and which have often been unrelated to the operating performance of these companies. These broad market fluctuations, as well as general economic and political conditions, may adversely effect the market price of the Common Stock.

THE COMPANY

On August 21, 1998, T Cell Sciences, Inc., a Delaware corporation, changed its name to Avant Immunotherapeutics, Inc. (the "Company"). The Company also changed its ticker symbol from "TCEL" to "AVAN."

The Company is a biopharmaceutical company engaged in the discovery and development of innovative drugs targeting diseases of the immune, inflammatory and vascular systems. See "Recent Developments." The Company's technology platforms are based on its understanding of the ways in which the body triggers it natural defense mechanisms. The Company's lead therapeutic program is focused on developing compounds that inhibit the inappropriate activation of the complement cascade, a vital part of the body's immune defense system. The Company has also established a program for the discovery and development of small-molecule immunoregulatory therapeutic compounds, for the prevention of immune rejection of transplanted organs and the treatment of autoimmune disorders. The Company's third program targets the development of a therapeutic vaccine for the prevention and treatment of atherosclerosis.

The Company's lead therapeutic program is focused on developing compounds 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 chronic inflammatory conditions. When the complement is activated, it helps to identify and eliminate damaged tissue. In certain situations, however, excessive complement activation may destroy viable and healthy 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, other surgeries and treatment for heart attacks. Many independent published studies have reported that the Company's lead compound, TP10, a soluble form of naturally occurring Complement Receptor 1 (sCR1), effectively inhibits the activation of the complement cascade in animal models. The Company believes that regulation of the complement system could have therapeutic and prophylactic applications in several acute and chronic conditions, including adult respiratory distress syndrome, reperfusion injury, organ transplant, multiple sclerosis, Alzheimer's disease, rheumatoid arthritis and lupus. In the U.S., several million people are afflicted with these complement-medicated conditions.

In October 1997, the Company announced positive preliminary results with respect to efficacy from a Phase I/II clinical trial of TP10 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. The results showed that at 24 hours after surgery, significantly fewer of the patients receiving TP10 required ventilation as compared to those receiving placebo. The patients receiving TP10 tended to have shorter time intubated and on ventilator, and shorter stays in the ICU. Additionally, those patients who received TP10 and also underwent cardiopulmonary by-pass as part of the transplantation procedure showed significantly decreased intubation time and time on ventilation.

In October 1997, the Company 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, the Company may 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, the Company may 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. The Company may also receive funding for research as well as royalty payments on eventual product sales.

In April 1998, the Company announced positive results with respect to efficacy from a Phase I/II clinical trial of TP10 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. The results showed that one day after surgery, significantly fewer of the patients receiving TP10 required ventilation as compared to those receiving placebo. The patients receiving TP10 tended to have shorter time intubated and on ventilator, and shorter stays in the ICU. Additionally, those patients who received TP10 and also underwent cardiopulmonary by-pass as part of the transplantation procedure showed significantly decreased intubation time and time on ventilation.

As a direct result of over thirteen (13) years of experience working with T cells and building on the Company's evaluation capabilities in molecular and cellular immunology and small-animal immunology models, the Company has developed a proprietary screening platform that it uses to identify small-molecule compounds which can regulate T cell activation. These whole cell screens are based on signal transduction and gene regulation directed to cytokine gene targets. T cell activation plays an important role in solid organ transplant rejection as well as in certain autoimmune diseases. The Company is seeking to develop an alternative treatment to existing immunosuppressants such as Cyclosporin and FK506, which due to their toxicity, have limited application in chronic conditions. Despite this limitation, worldwide sales of Cyclosporin in 1995 exceeded $1 billion. The Company's basic approach is to combine the biological skills and proprietary screens it has developed with the small-molecule libraries created by other biotechnology companies.

The Company is developing a therapeutic vaccine against endogenous cholesteryl ester transfer protein ("CETP"), which may be useful in reducing risk factors for atherosclerosis. CETP is a key intermediary in the balance of high-density lipoprotein ("HDL" or "good" cholesterol) and low-density lipoprotein ("LDL" or "bad" cholesterol). The Company is developing a vaccine to stimulate an immune response against CETP which it believes may improve the ratio of HDL to LDL and reduce the potential of atherosclerosis. The Company has conducted studies using animal models that demonstrate the Company's ability to break immune tolerance, produce autoreactive antibodies to CETP, elevate HDL levels and reduce blood vessel lesions.

RECENT DEVELOPMENTS

On August 21, 1998, TC Merger Corp. ("TCMC"), a Delaware Corporation and a wholly-owned subsidiary of Avant Immunotherapeutics, Inc., merged with and into Virus Research Institute, Inc. ("VRI"), a Delaware corporation, pursuant to an Agreement and Plan of Merger dated as of May 12, 1998 (the "Agreement") by and among the Company, TCMC and VRI. VRI survived the merger as a wholly-owned subsidiary of the Company.

In consideration, on August 21, 1998, the Company issued pursuant to the Agreement: (i) 14,036,454 shares of Common Stock valued at approximately $28,072,908 million based upon the closing price of the Common Stock on August 21, 1998 and (ii) 1,811,155 warrants (the "Warrants") to acquire 1,811,155 shares of the Company's Common Stock. The Warrants expire on August 21, 2003 and have an exercise price of $6.00 per share. Pursuant to the Agreement, the Registrant also assumed 83,584 warrants (the "VRI Warrants") and 990,441 options (the "VRI Options") to acquire shares of VRI's $.001 par value common stock. The VRI Warrants are exercisable for 129,555 shares of the Company's Common Stock and 16,717 Warrants. The VRI Options are exercisable for 1,535,184 shares of the Company's Common Stock and 24,267 Warrants. The merger is being accounted for as a purchase transaction.

On August 21, 1998, the Company changed its name from T Cell Sciences, Inc. to Avant Immunotherapeutics, Inc. The Company's ticker symbol also changed from "TCEL" to "AVAN."

USE OF PROCEEDS

The Company will not receive any proceeds from the sale of the Shares by the Selling Stockholders.

REGISTRATION RIGHTS

The registration of the Shares pursuant to the Registration Statement of which this Prospectus is a part will discharge a portion of the Company's obligations under the terms of a Stock Purchase Agreement dated March 20, 1998.

Pursuant to the Stock Purchase Agreement, the Company has agreed to pay all expenses of registering the Shares (other than brokerage and underwriting commissions, taxes of any kind and any legal, accounting and other expenses incurred by a holder thereunder). The Company also has agreed under the Stock Purchase Agreement to indemnify each Selling Stockholder and its officers, directors and other affiliated persons and any person who controls any Selling Stockholder against losses, claims, damages and expenses arising under the securities laws in connection with the Registration Statement or this Prospectus, subject to certain limitations. In addition, each Selling Stockholder under the Stock Purchase Agreement severally agreed to indemnify the Company and its respective directors, officers and any person who controls the Company against all losses, claims, damages and expenses arising under the securities laws insofar as such loss, claim, damage or expense relates to information furnished to the Company by such Selling Stockholder for use in the Registration Statement or Prospectus or an amendment or supplement thereto or the failure by such Selling Stockholder (through no fault of the Company) to deliver or cause to be delivered this Prospectus or any amendment or supplement thereto to any purchaser of Shares covered by the Registration Statement from such Selling Stockholder.

SELLING STOCKHOLDERS

The Shares are to be offered by and for the respective accounts of the Selling Stockholders. The following table sets forth the name and number of shares of Common Stock owned by each Selling Stockholder as of March 20, 1998. The Shares offered by this Prospectus may be offered from time to time by the Selling Stockholders. Because the Selling Stockholders may sell all, some or none of the Shares, the Company has assumed that the Selling Stockholders will sell all of the Shares in determining the number and percentage of shares of Common Stock that each Selling Stockholder will own upon completion of the offering to which this Prospectus relates. The amounts set forth below are based upon information provided by the Selling Stockholders and are accurate to the best knowledge of the Company.

Selling Stockholder	Shares of Common Stock Beneficially Owned as of March 31, 1998	Shares of Common Stock Offered Hereby	Shares of Common Stock Owned After the Offering (2)	
			Number(1)	Percent (2)
SMALLCAP World Fund, Inc.....	1,500,000	200,000	1,300,000	4.6%
Lombard Odier & Cie.....	1,053,631	1,052,631	1,000	*
Lindfield Management Inc.	353,469	353,469	0	*
Pierre Alan Mathier.....	317,036	317,036	0	*
Sequest Foundation.....	35,191	35,191	0	*
Anisfield Investments, Ltd.....	10,167	10,167	0	*
Total.....	3,269,494	1,968,494	1,301,000	4.6%

* Less than 1%.

(1) Assumes that all Shares hereby offered by the Selling Stockholders are sold.
(2) Based on 28,531,285 outstanding shares of Common Stock of the Company as of March 31, 1998.

PLAN OF DISTRIBUTION

Shares of Common Stock covered hereby may be offered and sold from time to time by the Selling Stockholders. The Selling Stockholders will act independently of the Company in making decisions with respect to the timing, manner and size of each sale. Such sales may be made in transactions on the Nasdaq National Market or otherwise at prices related to the then current market price or in negotiated transactions. The Selling Stockholders may also make private sales either directly or through a broker or brokers. The Shares may be sold by one or more of the following methods: (a) purchases by the broker-dealer as principal and resale by such broker or dealer for its account pursuant to this Prospectus; (b) ordinary brokerage transactions and transactions in which the broker solicits purchasers; and (c) block trades in which the broker-dealer so engaged will attempt to sell the Shares as agent, but may position and resell a portion of the block as principal to facilitate the transaction. In effecting sales, broker-dealers engaged by the Selling Stockholders may arrange for other broker-dealers to participate. Broker-dealers will receive commissions or discounts from the Selling Stockholders in amounts to be negotiated immediately prior to the sale.

In offering the shares of Common Stock covered hereby, the Selling Stockholders and any broker-dealers who execute sales for the Selling Stockholders may be deemed to be "underwriters" within the meaning of the Securities Act in connection with such sales, and any profits realized by the Selling Stockholders and the compensation of such broker-dealer may be deemed to be underwriting discounts and commissions under the Securities Act.

The Company has agreed to indemnify each Selling Stockholder against any liabilities, under the Securities Act or otherwise, arising out of or based upon any untrue or alleged untrue statement of a material fact in the Registration Statement or this Prospectus or by any omission of a material fact required to be stated therein except to the extent that such liabilities arise out of or are based upon any untrue or alleged untrue statement or omission in any information furnished in writing to the Company by the Selling Stockholder expressly for use in the Registration Statement.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers or persons controlling the Company pursuant to the foregoing provisions, the Company has been informed that in the opinion of the Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable.

LEGAL MATTERS

The validity of the issuance of the Shares offered hereby will be passed upon for the Company by its counsel, Goodwin, Procter & Hoar LLP, Boston, Massachusetts.

EXPERTS

The consolidated financial statements incorporated in this Prospectus by reference to the Annual Report on Form 10-K for the year ended December 31, 1997, have been so incorporated in reliance upon the report of Price Waterhouse LLP, independent accountants, given on the authority of said firm as experts in auditing and accounting.

No dealer, sales representative or any other person has been authorized to give any information or to make any representations in connection with this offering other than those contained in this Prospectus, and, if given or made, such information or representations must not be relied upon as having been authorized by the Company or any other person. This Prospectus does not constitute an offer to sell or a solicitation of an offer to buy any securities other than the shares of Common Stock to which it relates or an offer to, or a solicitation of, any person in any jurisdiction where such an offer or solicitation would be unlawful. Neither the delivery of this Prospectus nor any sale made hereunder shall, under any circumstances, create any implication that there has been no change in the affairs of the Company or that information contained herein is correct as of any time subsequent to the date hereof.

TABLE OF CONTENTS

1,968,494 Shares

AVANT IMMUNOTHERAPEUTICS, INC.

COMMON STOCK

PROSPECTUS

September 8, 1998