SPHERIX INC
Form 424B3
November 22, 2011
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Filed pursuant to Rule 424(b)(3) under the

Securities Act of 1933 in connection with

Registration Statement No. 333-177748

PROSPECTUS

SPHERIX INCORPORATED

1,065,118 SHARES OF COMMON STOCK

This prospectus relates to the disposition from time to time of up to 1,065,118 shares of our common stock, which are held or may be held by the selling stockholders named in this prospectus. The persons listed as our selling stockholders in this prospectus are offering and selling up to 532,559 shares of our common stock currently owned by such selling stockholders as well as up to 532,559 shares of our common stock that may be acquired by such selling stockholders upon exercise of outstanding warrants. The warrants are exercisable immediately at an exercise price of $2.24 per share of common stock. We are not selling any shares of common stock or warrants in this offering and, therefore will not receive any proceeds from this offering by the selling stockholders. However, we will receive the proceeds from the exercise of the warrants by the selling stockholders, if any, to the extent that the warrants are not exercised on a cashless or net basis. We will bear all of the expenses and fees incurred in registering the shares offered by this prospectus.

The selling stockholders identified in this prospectus, or their permitted transferees or other successors-in-interest, may offer the shares from time to time through public or private transactions at prevailing market prices, at prices related to prevailing market prices, or at privately negotiated prices. The selling stockholders may engage brokers or dealers who may receive commissions or discounts from the selling stockholders. Any broker-dealer acquiring the common stock from the selling stockholders may sell these securities in normal market making activities, through other brokers on a principal or agency basis, in negotiated transactions, to its customers or through a combination of methods. We provide more information about how the selling stockholders may sell their shares of common stock in the section entitled Plan of Distribution beginning on page 18 of this prospectus. We will not be paying any underwriting discounts or commissions in connection with any offering of common stock under this prospectus.

Our common stock is quoted on the NASDAQ Capital Market under the symbol SPEX . On November 16, 2011, the last reported sales price for our common stock on NASDAQ was $1.99 per share. Our warrants are not and will not be listed for trading on any exchange.

Unless the context otherwise requires, the terms we, our, us, the Company and Spherix refer to Spherix Incorporated and its consolidated subsidiaries.

Investing in our common stock is highly speculative and involves a high degree of risk. Before buying any of our common stock, you should carefully consider the risk factors beginning on page 7 of Part I, Item IA of our Annual Report on Form 10-K for the year ended December 31, 2010 which is incorporated by reference into this prospectus, as well those described or may be described in any subsequent quarterly report on Form 10-Q under Part II, Item IA or annual report on Form 10-K under Part I, Item IA incorporated by reference into this prospectus or related prospectus supplements. You should consider carefully these risks together with all of the other information contained in this prospectus and any related prospectus supplement before making a decision to purchase our common stock.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities, or passed upon the accuracy or adequacy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this Prospectus is November 22, 2011.

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ABOUT THE PROSPECTUS

We have filed a shelf registration statement on Form S-3 with the Securities and Exchange Commission (the SEC) covering the shares of common stock offered by this prospectus. Under this shelf registration process, the selling stockholders may from time to time, in one or more offerings, sell the common stock described in this prospectus. As permitted by the rules and regulations of the SEC, this prospectus omits certain information, exhibits and undertakings contained in the registration statement. For further information pertaining to the shares of common stock offered by this prospectus, reference is made to the registration statement, including the exhibits filed as a part thereof.

You should rely only on the information contained in or incorporated by reference into this prospectus, as supplemented and amended. We have not authorized anyone to provide you with different information. This document may only be used where it is legal to sell these securities. You should not assume that the information contained in this prospectus is accurate as of any date other than its date regardless of the time of delivery of the prospectus or any sale of our common stock.

We urge you to read carefully this prospectus, as supplemented and amended, together with the information incorporated herein by reference as described under the heading Incorporation of Certain Information by Reference, before deciding whether to invest in any of the common stock being offered.

You should rely only on the information contained in this prospectus and information to which we have referred you, including the information incorporated by reference. We have not authorized anyone to provide you with different information. The information contained in this prospectus is complete and accurate only as of the date on the front cover, but the information may have changed since that date. This prospectus is not an offer to sell, nor is it seeking an offer to buy, these securities in any jurisdiction where the offer or sale is not permitted.

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SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus, any prospectus supplement and the documents we incorporate by reference contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. Forward looking statements reflect our current views with respect to future events and future forward performance, including in particular statements about our plans, objectives, expectations and prospects. You can identify these statements by forward-looking words such as anticipate, believe, estimate, expect, intend, plan, seek, forecasts, projects, could, may, will, would, hopes, and similar expressions. Although we believe that the p expectations and prospects reflected in or suggested by our forward-looking statements are reasonable, those statements involve uncertainties and risks, and we can give no assurance that our plans, objectives, expectations and prospects will be achieved. Important factors that could cause our actual results to differ materially from the results anticipated by the forward-looking statements are referenced herein under Risk Factors and elsewhere in this prospectus. Any or all of these factors could cause our actual results and financial or legal status for future periods to differ materially from those expressed or referred to in any forward-looking statements. All written or oral forward-looking statements attributable to us are expressly qualified in their entirety by these cautionary statements. Forward-looking statements speak only as of the date on which they are made and we do not assume any obligation to update or revise any forward-looking statements that we make, whether as a result of new information, future events or otherwise.

We have identified some of the important factors that could cause future events to differ from our current expectations in our most recent Annual Report on Form 10-K filed on March 30, 2011 including, without limitation, under the captions Item 1A. Risk Factors and Item 7. Management s Discussion and Analysis of Financial Condition and Results of Operation, in our Quarterly Reports on Form 10-Q filed on May 13, 2011, August 15, 2011, and November 15, 2011, together with other documents we file with the SEC and that are incorporated herein by reference, all of which you should review carefully. Although we have attempted to list comprehensively these important factors, we also wish to caution investors that other factors may prove to be important in the future in affecting our operating results. New factors emerge from time to time, and it is not possible for us to predict all of these factors, nor can we assess the impact each factor or combination of factors may have on our business.

PROSPECTUS SUMMARY

This summary does not contain all of the information you should consider before buying our securities. You should read the entire prospectus carefully, especially the Risk Factors referenced in this prospectus, and our financial statements, related notes and other information incorporated by reference into this prospectus before deciding to invest in our securities.

Company Information

We were founded in 1967 and are incorporated in the State of Delaware. Our principal executive offices are located at 6430 Rockledge Drive, Suite 503, Bethesda, Maryland 20817, and our telephone number is (301) 897-2540. Our website is www.spherix.com. The information contained on our website is not a part of this prospectus. We have included our website address in this prospectus for reference only.

We are engaged in two (2) lines of business, our biotechnology research and development business and our health sciences technical and regulatory consulting business. We have created two wholly-owned subsidiaries, Biospherics Incorporated, which operates our biotechnology

segment, and Spherix Consulting, Inc., which operates our Health Sciences segment. The subsidiaries began operations on January 1, 2009. Spherix now provides management, strategic guidance, business development, marketing and other services to its subsidiaries.

Biotechnology Segment

Biospherics is dedicated to development of pharmaceuticals. Until June, 2010, this development was limited to developing D-tagatose as a novel, first-in-class treatment for Type 2 diabetes. Tagatose, a naturally occurring sugar, is a low-calorie, full-bulk sweetener previously approved by the Food and Drug Administration (FDA) as a GRAS (Generally Recognized As Safe) food ingredient. It is a true sugar that looks, feels, and tastes like table sugar. During human safety studies supporting food use, we discovered and patented a number of health and medical uses for D-tagatose.

In June, 2010, the Company announced that it would actively seek a pharma partner to continue the diabetes development and that it would also explore D-tagatose as a potential treatment for high triglycerides, a risk

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factor for atherosclerosis, myocardial infarction, and stroke. The Company has begun such exploration and is also evaluating other drug compounds it has licensed from the University of Kentucky. Recently, the Company has focused its studies on treating high triglycerides with a combination of D-tagatose and one of the licensed drug candidates, which combination is referred to as SPX-106T. Animal studies of SPX-106T are ongoing and an initial human efficacy study could begin in early to mid 2012. The Company is also exploring the possibility of obtaining by license or acquisition other clinical stage compounds/orphan drugs for continued development and commercialization.

Diabetes

We have conducted a Phase 3 trial to determine efficacy of D-tagatose as a treatment for Type 2 diabetes and a Phase 2 Dose Range trial to evaluate the effectiveness of lower doses of D-tagatose in treating Type 2 diabetes. D-tagatose is believed to depress elevations of blood sugar levels in diabetic patients by increasing glycogen synthesis while decreasing glycogen utilization, resulting in an improvement of blood sugar control and modulation of HbA1c. HbA1c is a key indicator that measures glycated hemoglobin in the blood and is a measure of long-term control of blood glucose. Glucose is a sugar molecule that serves as a primary energy storage mechanism and glycogen is a molecule that functions as secondary long-term energy storage in humans. D-tagatose works in part by affecting glycogen levels.

We have announced that our Phase 3 clinical trial showed that D-tagatose as a monotherapy in Type 2 diabetes showed a statistically significant ($p<0.05$) reduction in HbA1c levels of 0.4% at 10 months in relatively healthy people with diabetes (U.S. ITT LOCF, n=101 and Global PP, n=92)(1). The reduction was even more pronounced among PP patients treated in the U.S., and the reduction in HbA1c generally increased over the 10 months patients were treated.

Our Phase 2 Dose Range study further confirms the effectiveness of D-tagatose and established a minimum dose capable of affecting HbA1c of 7.5 grams, three times per day.

Notwithstanding the favorable Phase 3 and Phase 2 results, the cost burden of developing drugs specifically for diabetes has increased significantly within the last few years under evolving and more stringent FDA guidelines. A Company-commissioned analysis estimates it would take several additional years of clinical trials and could cost as much as several hundred million dollars to achieve a New Drug Application (NDA) filing for D-tagatose under current FDA guidelines. European regulatory requirements are significantly lower and we believe Europe represents a better opportunity for development, especially given the longer exclusivity period granted to a new chemical entity. We have determined that continued development of D-tagatose as a treatment for Type 2 diabetes requires the involvement of a pharma partner with the resources needed to fund the rest of the development and to bring it to market. We are hopeful that the recently announced Phase 3 results will further D-tagatose as an attractive candidate for further development by a pharma company. Accordingly, we are actively seeking a strategic relationship with a pharma company for the continued development of D-tagatose as a treatment for Type 2 diabetes.

Triglycerides

Secondary endpoints of our diabetes trials include triglyceride measurements. High triglyceride levels are sometimes a symptom of conditions associated with heart disease such as obesity and metabolic syndrome, which is a condition associated with elevated glucose levels as well as too much fat around the waist, high blood pressure, high triglycerides and low HDL cholesterol. Although our Phase 2 and Phase 3 trials were not primarily designed to measure the impact of D-tagatose on high triglycerides, we are encouraged enough to continue with pursuit of this project.

Our Phase 2 data showed that by the end of the six-month trial, the 7.5g dose reduced triglycerides versus the 2.5g dose by approximately 23%.

The program to investigate D-tagatose as a pharmaceutical agent to lower serum triglycerides has begun. We are also investigating other drug compounds which we have licensed from the University of Kentucky. We are now focusing on SPX-106T, a combination of D-tagatose and one of such licensed drug candidates, as a potential treatment for high triglycerides. We have engaged a leading global contract research organization to investigate the role of SPX-106T in lowering triglycerides. We are conducting animal and will likely conduct human studies in order to fully explore the mechanism of action on lipid metabolism, including triglycerides as well as LDL and HDL cholesterol, and intend to begin Phase 1 human trials in early 2012. The commercial intent of the triglyceride

(1) PP = Per-Protocol; ITT = Intent-to-Treat; LOCF = Last Observation Carried Forward

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program is to develop a formulation, dose and dosing regimen appropriate for the lipid market segment and uniquely different from the diabetes market. Thus, our intent is to develop a completely new, second brand for triglycerides, separate from the diabetes brand. Our goal is to produce a robust proof of concept in a Phase 2 clinical study, and then seek a pharma partner for further development of the triglycerides drug product. We estimate that it will likely take up to three years to complete the studies/trials necessary to attract a pharma partner to complete the development and an additional two to three years to complete all necessary studies for an NDA filing.

We expect to incur substantial development costs in our Biospherics segment in the next several years, without substantial corresponding revenue. We further expect that these costs will likely increase over the next several years as the study progresses. Over the next 12 months, the Company expects that it will need to expend at least $4 to $6 million to support its development operations, including a Phase 1 human trial as noted above. We intend to finance our development activities through the remaining net proceeds of our previous equity offerings and additional funds we will seek to raise through the sale of additional stock in the future.

Health Sciences Segment

In July 2007, we entered into the Health Sciences business when Claire L. Kruger, CEO and COO, joined us in advance of the anticipated sale of our wholly-owned subsidiary, InfoSpherix Incorporated. The Health Sciences business provides technical and regulatory consulting services to biotechnology and pharmaceutical companies, as well as providing technical support for our own R&D activities.

During 2010 and 2009, Health Sciences provided services to 23 and 12 companies, respectively. We generally provide our services on either a fixed-price basis or a time and expenses basis, charging hourly rates for each staff member involved in a project, based on his or her skills and experience. Our engagement agreements typically provide for monthly billing and payment of our invoices within thirty days of receipt.

The projects range from safety analyses of food ingredients to safety analyses of pharmaceutical manufacturing and dispensing equipment. Many clients are large, well-known companies with a number of successful products on the market. The proliferation of new products in the food and pharmaceutical areas creates a growing need for such regulatory services.

Revenues are primarily derived from services provided in response to client requests or events that occur without notice, and engagements, generally billed as services are performed, are terminable or subject to postponement or delay at any time by clients. Revenues and operating margins for any particular quarter are generally affected by staffing mix, resource requirements, and timing and size of engagements.

Health Sciences is also monitoring and directing the clinical trials of D-tagatose and SPX-106T for Biospherics.

Health Sciences revenue accounted for 99% of our total revenue in each of 2010 and 2009.

Liquidity

The Company has been and will continue to rely upon equity financings to support its pharmaceutical development activities. In late October, 2011, we completed a private placement offering in which we sold 532,559 shares of common stock and warrants for an additional 532,559 shares and received approximately $1.2 million in net proceeds. In January, 2011, we completed our most recent registered direct equity financing involving the issuance of 4,269,000 shares of our common stock and warrants exercisable for an additional 2,134,500 shares of our common stock. We received approximately $2.6 million in net proceeds from the offering, after deducting the placement agent s fees and our offering expenses. As of June 30, 2011, the Company had cash and short-term investments of approximately $5.6 million and expects to expend all of this amount within the next nine to twelve months.

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The Offering

Securities Offered	This offering relates to the disposition from time to time of up to 1,065,118 shares of our common stock issued or issuable to the selling stockholders, consisting of 532,559 shares of our common stock and 532,559 shares of our common stock issuable upon exercise of warrants. We sold these shares of common stock and warrants to the selling stockholders in private placement transactions that were completed in late October, 2011 (the Private Placement). Rodman & Renshaw, LLC acted as the exclusive placement agent for the issuance and sale of the securities in the Private Placement. The selling stockholders may from time to time offer and sell any or all of the shares under this prospectus; however, the selling stockholders are not obligated to sell the shares. We intend for the shares of common stock issuable upon exercise of the warrants from the Private Placement (for up to 532,559 shares) to be issued to the selling stockholders in transactions exempt from registration under the Securities Act pursuant to Rule 506 of the Securities Act. The warrants are immediately exercisable.
Registration Rights Agreement	Concurrent with our issuance and sale of the common stock and warrants in the Private Placement, we also entered into a Registration Rights Agreement with the selling stockholders (the Registration Rights Agreement) that required us to file a registration statement with the SEC covering the resale by such selling stockholders of the common stock and the shares of common stock issuable upon exercise of the warrants issued in the Private Placement. This prospectus is a part of that registration statement. Pursuant to the Registration Rights Agreement, we are obligated to file and maintain for the benefit of the selling stockholders a registration statement with respect to the shares of common stock and the shares of common stock issuable upon exercise of the warrants issued in the Private Placement, until the earlier of (i) the date on which all such shares may be resold by the selling stockholders without registration and without regard to any volume or manner-of-sale limitations by reasons of Rule 144 under the Securities Act, without the requirement for the Company to be in compliance with the current public information provision under Rule 144 or any other rule or similar effect or (ii) all such shares have been sold pursuant to this prospectus or Rule 144 under the Securities Act or any other rule of similar effect. If we fail to meet this obligation, we may be subject to certain penalties, including monetary penalties, set forth in the Registration Rights Agreement. The foregoing description of the Registration Rights Agreement does not purport to be complete and is qualified in its entirety by reference to the full text of such agreement, a copy of which is filed as an exhibit to this registration statement and is incorporated herein by reference.
Use of Proceeds	We are not selling any shares of common stock or warrants in this offering and, therefore will not receive any proceeds from this offering by the selling stockholders. However, we will receive the proceeds from the exercise of the warrants by the selling stockholders, if any, to the extent that the warrants are not exercised on a cashless or net basis. If all the warrants are exercised for cash, we would receive an aggregate of $1.19 million from such exercise. We anticipate that any net proceeds we receive in connection with the selling stockholders cash exercise of the warrants will be used for continued development of our products and for general corporate purposes and working capital.

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Risk Factors	Investing in our common stock involves a high degree of risk. You should consider carefully the risk factors beginning on page 7 under Part I, Item IA of our Annual Report on Form 10-K for the year ended December 31, 2010, which is incorporated by reference into this Prospectus, as well those described or may be described in any subsequent quarterly report on Form 10-Q under Part II, Item IA or annual report on Form 10-K under Part I, Item IA incorporated by reference into this prospectus or related prospectus supplements.
NASDAQ Capital Market symbol	SPEX

RISK FACTORS

An investment in our securities involves a high degree of risk and should be considered only by those persons who are able to afford a loss of their entire investment. There are important factors that could cause our actual results, level of activity, performance or achievements to differ materially from the results, level of activity, performance or achievements expressed or implied by any forward-looking statement. In particular, you should consider the numerous risks outlined below. Those risk factors are not exhaustive.

RISKS ASSOCIATED WITH PRODUCT DEVELOPMENT

WE MAY NOT BE ABLE TO FIND A STRATEGIC PARTNER FOR OUR DIABETES DRUG CANDIDATE. With the conclusion of the Phase 3 trial, we have scaled back our development of D-tagatose as a treatment for Type 2 diabetes and are actively seeking a strategic partner to continue this development. We may not locate such a partner or may not negotiate an appropriate strategic relationship agreement. If we are not successful, we will not obtain any benefit from the substantial investment we have made in these efforts over the past several years.

OUR POTENTIAL TRIGLYCERIDES DRUG IS AT A VERY EARLY STAGE OF DEVELOPMENT. We will be starting at the beginning in our development of a triglycerides drug. We may begin with animal studies and then progress to human studies and trials. We expect that it could take up to three years to complete the studies/trials necessary to attract a pharma partner to complete the development. There can be no assurance that any of these studies/trials will be successful or that we will develop the necessary proof of concept required to attract a pharma partner.

WE MAY NOT OBTAIN RIGHTS TO ANY OTHER CLINICAL STAGE COMPOUNDS/ORPHAN DRUGS. Despite our best efforts, we may not be able to obtain via license or acquisition rights to any other clinical stage/compounds/orphan drugs. In such an event, our future will be solely determined by our ability to find a strategic partner for D-tagatose as a diabetes drug and the success of our development of our triglyceride drug.

WE MAY OBTAIN RIGHTS TO OTHER CLINICAL STAGE COMPOUNDS/ORPHAN DRUGS BUT WE MAY NOT BE SUCCESSFUL IN COMMERCIALIZING SUCH DRUG CANDIDATES. The types of clinical stage compounds/orphan drugs we are seeking will likely be at a fairly early stage of development and actual research and development costs could exceed budgeted amounts and estimated time frames may require extension. Cost overruns, unanticipated regulatory delays or demands, unexpected adverse side effects or insufficient efficacy could prevent or substantially slow our research and development effort.

IF WE ARE UNABLE TO COMPLETE OUR CLINICAL TRIAL PROGRAMS SUCCESSFULLY, OR IF SUCH CLINICAL TRIALS TAKE LONGER TO COMPLETE THAN WE PROJECT, OUR ABILITY TO EXECUTE OUR CURRENT BUSINESS STRATEGY WILL BE ADVERSELY AFFECTED. Whether or not and how quickly we complete clinical trials is dependent in part upon the rate at which we are able to engage clinical trial sites and, thereafter, the rate of enrollment of patients, and the rate we collect, clean, lock and analyze the clinical trial database. Patient enrollment is a function of many factors, including the size of the patient population, the proximity of patients to clinical sites, the eligibility criteria for the study, the existence of competitive clinical trials, and whether existing or new drugs are approved for the indication we are studying. Certain clinical trials are designed to continue until a pre-determined number of events have occurred in the patients

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enrolled. Trials such as this are subject to delays stemming from patient withdrawal and from lower than expected event rates. They may also incur additional costs if enrollment is increased in order to achieve the desired number of events. If we experience delays in identifying and contracting with sites and/or in patient enrollment in our clinical trial programs, we may incur additional costs and delays in our development programs, and may not be able to complete our clinical trials in a cost-effective or timely manner. In addition, conducting multi-national studies adds another level of complexity and risk. We are subject to events affecting countries outside the United States. Negative or inconclusive results from the clinical trials we conduct or unanticipated adverse medical events could cause us to have to repeat or terminate the clinical trials. We may also opt to change the delivery method, formulation or dosage which could affect efficacy results for the drug candidate. Accordingly, we may not be able to complete the clinical trials within an acceptable time frame, if at all.

Additionally, we have never filed an NDA, or similar application for approval in the United States, or in any country, which may result in a delay in, or the rejection of, our filing of an NDA or similar application. During the drug development process, regulatory agencies will typically ask questions of drug sponsors. While we endeavor to answer all such questions in a timely fashion, or in the NDA filing, some questions may remain unanswered by the time we file our NDA. Unless the FDA opts not to pursue answers to these questions, submission of an NDA may be delayed or rejected.

PRE-CLINICAL TESTING AND CLINICAL DEVELOPMENT ARE LONG, EXPENSIVE AND UNCERTAIN PROCESSES. IF OUR DRUG CANDIDATES DO NOT RECEIVE THE NECESSARY REGULATORY APPROVALS, WE WILL BE UNABLE TO COMMERCIALIZE OUR DRUG CANDIDATES. We have not received, and may never receive, regulatory approval for the commercial sale of any of our drug candidates. We will need to conduct significant additional research and human testing before we can apply for product approval with the FDA or with regulatory authorities of other countries. Pre-clinical testing and clinical development are long, expensive and uncertain processes. Satisfaction of regulatory requirements typically depends on the nature, complexity and novelty of the product. It requires the expenditure of substantial resources. Data obtained from pre-clinical and clinical tests can be interpreted in different ways, which could delay, limit or prevent regulatory approval. The FDA may pose additional questions or request further clinical substantiation. It may take us many years to complete the testing of our drug candidates and failure can occur at any stage of this process. Negative or inconclusive results or medical events during a clinical trial could cause us to delay or terminate our development efforts.

Furthermore, interim results of preclinical or clinical studies do not necessarily predict their final results, and acceptable results in early studies might not be obtained in later studies.

Clinical trials have a high risk of failure. A number of companies in the pharmaceutical industry, including biotechnology companies, have suffered significant setbacks in advanced clinical trials, even after achieving what appeared to be promising results in earlier trials. If we experience delays in the testing or approval process or if we need to perform more or larger clinical trials than originally planned, our financial results and the commercial prospects for our drug candidates may be materially impaired. In addition, we have limited experience in conducting and managing the clinical trials necessary to obtain regulatory approval in the United States and abroad. Accordingly, we may encounter unforeseen problems and delays in the approval process. Although we may engage a clinical research organization with experience in conducting regulatory trials, errors in the conduct, monitoring and/or auditing could potentially invalidate the results.

OUR PATENT PROTECTION MAY NOT BE SUFFICIENT TO PROTECT US. Our current use patent for D-tagatose as a treatment for Type 2 diabetes expires in 2012. At present we only have patents pending for triglycerides treatment. There can be no assurance these patents will be issued.

WE DO NOT CURRENTLY HAVE THE RESOURCES TO BECOME A FULL SCALE BIOTECHNOLOGY COMPANY AND WE MAY NOT BE ABLE TO ATTRACT A NECESSARY BUYER/LICENSEE/PARTNER/STRATEGIC PARTNER BEFORE WE EXPEND ALL OF OUR FUNDS. We intend to continue to develop D-tagatose as a viable triglycerides treatment and to continuously seek a sale, license, or partner. Our hope and expectation is that as we proceed with the development, incremental successes may allow us to negotiate a favorable transaction. There can be no assurance, however, that we will have such incremental successes, or even if we achieve them, that we will attract a buyer, licensee or partner. We have limited resources. We will need to raise additional funds in 2012 to continue operations and will likely require additional capital raises thereafter to fully pursue the triglycerides and any other clinical stage compound/orphan drug opportunity and we may not be able to do so in a timely fashion.

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REGULATORY AUTHORITIES MAY NOT APPROVE OUR PRODUCT EVEN IF IT MEETS SAFETY AND EFFICACY ENDPOINTS IN CLINICAL TRIALS. The FDA and foreign regulatory agencies can delay, limit or deny marketing approval for many reasons, including:

- a product candidate may not be considered safe or effective;
- the manufacturing processes or facilities we have selected may not meet the applicable requirements; and
- changes in approval policies or adoption of new regulations may require additional work on our part.

Any delay in, or failure to receive or maintain, approval for our drug candidates could prevent us from ever generating meaningful revenues.

Our products may not be approved even if they achieve endpoints in clinical trials. Regulatory agencies, including the FDA, or their advisors may disagree with our trial design and our interpretations of data from preclinical studies and clinical trials. Regulatory agencies may change requirements for approval even after a clinical trial design has been approved. Regulatory agencies may also approve a product candidate for fewer or more limited indications than requested, or may grant approval subject to the performance of post-marketing studies. In addition, regulatory agencies may not approve the labeling claims that are necessary or desirable for the successful commercialization of our products.

OUR FINANCIAL RESOURCES ARE LIMITED AND WE WILL NEED TO RAISE ADDITIONAL CAPITAL IN THE FUTURE TO CONTINUE OUR BUSINESS. WE MAY NOT BE ABLE TO OBTAIN ADDITIONAL FINANCING IF NEEDED. The Company expects to expend all of its cash within the next nine to twelve months. Our future capital requirements will depend on many factors, including the progress of the clinical trials and commercialization of our products, as well as general and administrative costs. Over the next 12 months, the Company expects that it will need to expend at least $4 to $6 million to support its development operations. We will need to raise additional funds in 2012 to continue operations and will likely require additional capital raises thereafter to fully pursue the triglycerides opportunity. We cannot ensure that additional funding will be available or, if it is available, that it can be obtained on terms and conditions we will deem acceptable. Any additional funding derived from the sale of equity securities is likely to result in significant dilution to our existing stockholders. These matters involve risks and uncertainties that may prevent us from raising additional capital or may cause the terms upon which we raise additional capital, if additional capital is available, to be less favorable to us than would otherwise be the case. If we reach a point where we are unable to raise needed additional funds to continue our business activities, we will be forced to cease our development activities and dissolve the company. In such an event, we will need to satisfy various severances, lease termination and other dissolution related obligations.

UNSTABLE MARKET CONDITIONS MAY HAVE SERIOUS ADVERSE CONSEQUENCES ON OUR BUSINESS. The recent economic downturn and market instability have made the business climate more volatile and more costly. Our general business strategy may be adversely affected by unpredictable and unstable market conditions, including:

- one or more of our service providers, manufacturers and other partners may encounter difficulties during challenging economic times, which would directly affect our ability to attain our goals on schedule and on budget;

- demand for our consulting services may decrease resulting in a decrease in revenue;
- our ability to collect on trade receivables may be negatively impacted by slow payments or bad debt;
- our efforts to raise additional capital may be negatively impacted;
- additional funding may not be available or, if it is available, may not be on terms and conditions we deem acceptable;
- any additional funding derived from the sale of equity securities is likely to result in significant dilution to our existing stockholders; and
- failure to secure the necessary financing in a timely manner and on favorable terms could have a material adverse effect on our business strategy, financial performance, and stock price and could require us to delay or abandon the clinical development plans.

IF CLINICAL TRIALS ARE PROLONGED, DELAYED OR SUSPENDED, IT MAY TAKE SIGNIFICANTLY LONGER AND COST SUBSTANTIALLY MORE TO OBTAIN APPROVAL FOR OUR DRUG CANDIDATE AND ACHIEVE PROFITABILITY, IF AT ALL. Each delay makes it more likely that we will need additional financing to complete our clinical trials. We cannot predict whether we will encounter

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additional problems that will cause us or regulatory authorities to delay or suspend the clinical trial, or delay the analysis of data from the trials. Any of the following could delay the clinical development of our drug candidates:

- ongoing discussions with the FDA regarding the scope or design of our trial;
- delays in receiving, or the inability to obtain, required approvals from reviewing entities at clinical sites selected for participation in our trial;
- a lower than anticipated retention rate of patients in the trial;
- the need to repeat the trial or conduct another trial as a result of inconclusive or negative results or unforeseen complications in testing;
- inadequate supply or deficient quality of materials necessary to conduct our trial;
- serious and unexpected drug-related side effects experienced by participants in our clinical trials;
- the placement by the FDA of a clinical hold on a trial; or
- any restrictions on or post-approval commitments with regard to any regulatory approval we ultimately obtain that render the drug candidate not commercially viable.

WE MAY RELY ON THIRD PARTIES TO CONDUCT OUR TRIALS, AND THOSE THIRD PARTIES MAY NOT PERFORM SATISFACTORILY. We may rely on third parties to enroll qualified patients, conduct our trials, provide services in connection with such trials, and coordinate and oversee significant aspects of the trials. Our reliance on these third parties for clinical development activities reduces our control over these activities. Accordingly, these third party contractors may not complete activities on schedule, or may not conduct our trials in accordance with regulatory requirements or the trial design. If these third parties do not successfully carry out their contractual duties or meet expected deadlines, we may be required to replace them or we may be required to provide these services with our own personnel. Although we believe there are a number of third party contractors we could engage to continue these activities, replacing a third party contractor may result in a delay or affect the trial. If this were to occur, our efforts to obtain regulatory approvals for and commercialize our drug candidate may be delayed.

OUR CORPORATE COMPLIANCE EFFORTS CANNOT GUARANTEE THAT WE ARE IN COMPLIANCE WITH ALL POTENTIALLY APPLICABLE REGULATIONS. The development, manufacturing, pricing, sales, and reimbursement of drug products are subject to extensive regulation by federal, state and other authorities within the United States and numerous entities outside of the United States. We are a relatively small company with only 10 employees. We also have significantly fewer employees than many other companies that have a product candidate in clinical development, and we rely heavily on third parties to conduct many important functions. While we believe that our corporate compliance program is sufficient to ensure compliance with applicable regulation, we cannot assure that we are or will be in compliance with all potentially applicable regulations. If we fail to comply with any of these regulations we could be subject to a range of regulatory actions including suspension or termination of clinical trials, the failure to approve our product candidate, restrictions on our products or manufacturing processes, withdrawal of products from the market, significant fines, or other sanctions or litigation.

WE DO NOT HAVE INTERNAL MANUFACTURING CAPABILITIES, AND IF WE FAIL TO DEVELOP AND MAINTAIN SUPPLY RELATIONSHIPS WITH OUTSIDE MANUFACTURERS, WE MAY BE UNABLE TO DEVELOP OR COMMERCIALIZE OUR PRODUCTS. Our ability to develop and commercialize our products will depend in part on our ability to arrange for other parties to manufacture our products at a competitive cost, in accordance with regulatory requirements and in sufficient quantities for clinical testing and eventual commercialization. If we are unable to enter into or maintain commercial-scale manufacturing agreements on acceptable terms, or if we are unable to successfully bridge material from a manufacturer to the material initially used in the trials, the development and commercialization of our products could be delayed, which would adversely affect our ability to generate revenues and would increase our expenses.

FAILURE TO OBTAIN REGULATORY APPROVAL IN FOREIGN JURISDICTIONS WOULD PREVENT MARKETING OF OUR PRODUCTS. We intend to have our products marketed both inside and outside of the United States. In order to market our products in the European Union and many other foreign jurisdictions, we must obtain separate regulatory approvals and comply with numerous and varying regulatory requirements. The approval procedure varies among countries and can involve additional testing. The time required to obtain approval may differ from that required to obtain FDA approval. The foreign regulatory approval process may include all of the risks associated with obtaining FDA approval. We may not obtain foreign regulatory approvals on a timely basis, if at all. Approval by the FDA does not ensure approval by regulatory authorities in other countries, and approval by one foreign regulatory authority does not ensure approval by regulatory authorities

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in other foreign countries or by the FDA. We and our collaborators may not be able to file for regulatory approvals and may not receive necessary approvals to commercialize our products in any market. The failure to obtain these approvals could materially adversely affect our business, financial condition and results of operations.

EVEN IF OUR CLINICAL TRIALS ARE SUCCESSFUL, WE MAY NOT HAVE A COMMERCIALLY VIABLE DRUG OR PRODUCT. We have a number of hurdles to overcome to have a commercially viable drug or product even assuming our clinical trials are successful, including:

- We must secure one or more manufacturers for our products and we must bridge the materials supplied by the current manufacturer(s) to the previously supplied materials to gain FDA approval.

- We must demonstrate that the product will be accepted in the market place. Even if the clinical trial is successful, the market may not accept the drug formulation or dosing, which would be three times a day in powder form for diabetes treatment.

IF PHYSICIANS AND PATIENTS DO NOT ACCEPT OUR PRODUCTS, WE MAY NOT BE ABLE TO GENERATE SIGNIFICANT REVENUES FROM PRODUCT SALES. Even if we obtain regulatory approval for our products, they may not gain market acceptance among physicians, patients and the medical community for a variety of reasons including:

- timing of market introduction of competitive drugs;
- lower demonstrated clinical safety and efficacy compared to other drugs;
- lack of cost-effectiveness;
- lack of availability of reimbursement from managed care plans and other third-party payors;
- inconvenient administration;
- prevalence and severity of adverse side effects;
- drug interactions with other widely prescribed medications;
- potential advantages of alternative treatment methods;
- safety concerns with similar drugs marketed by others;
- the reluctance of the target population to try new therapies and of physicians to prescribe these therapies; and
- ineffective sales, marketing and distribution support.

If our products fail to achieve market acceptance, we would not be able to generate significant revenue or achieve profitability.

BIOTECHNOLOGY BUSINESS HAS A SUBSTANTIAL RISK OF PRODUCT LIABILITY CLAIMS. THE DEFENSE OF ANY PRODUCT LIABILITY CLAIM BROUGHT AGAINST US WILL DIVERT MANAGEMENT TIME AND REQUIRE SIGNIFICANT EXPENSE. We could be exposed to significant potential product liability risks that are inherent in the development, manufacture, sales and marketing of drugs and related products. Our insurance may not, however, provide adequate coverage against potential liabilities. Furthermore, product liability insurance is becoming increasingly expensive. As a result, we may be unable to maintain current amounts of insurance coverage or obtain additional or sufficient insurance at a reasonable cost to protect against losses that could have a material adverse effect on us. If a claim is brought against us, we might be required to pay legal and other expenses to defend the claim, as well as uncovered damage awards resulting from a claim brought successfully against us. Furthermore, whether or not we are ultimately successful in defending any such claims, we might be required to redirect significant financial and managerial resources to such defense, and adverse publicity is likely to result.

WE HAVE SUSTAINED LOSSES IN THE PAST AND WE WILL SUSTAIN LOSSES IN THE FUTURE. We have incurred losses from continuing operations in prior periods. Our net losses from continuing operations before taxes for the first six (6) months of 2011 was $1.2 million, and for the years ended December 31, 2010 and 2009 were $7.7 million and $9.1 million, respectively. The Company s cumulative deficit was $33.7 million at December 31, 2010. We expect to incur substantial losses for the foreseeable future. We may not return to profitable operations.

WE MAY NOT BE ABLE TO RETAIN OUR KEY EXECUTIVES AND PERSONNEL. As a small company, our success depends on the services of key employees in executive and other positions. The loss of the services of one or more of such employees could have a material adverse effect on us.

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WE FACE INTENSE COMPETITION BY COMPETITORS. Our competitors in the pharmaceutical products business are numerous. Many of our competitors have significantly greater financial, marketing and distribution resources than we do. Our competitors may succeed in developing or marketing biotechnology products that are more effective than ours.

WE FACE EVOLVING REGULATION OF CORPORATE GOVERNANCE AND PUBLIC DISCLOSURE THAT MAY RESULT IN ADDITIONAL EXPENSES AND CONTINUING UNCERTAINTY. Changing laws, regulations and standards relating to corporate governance and public disclosure, including the Sarbanes-Oxley Act of 2002, new SEC regulations and NASDAQ Stock Market LLC rules are creating uncertainty for public companies. We are presently evaluating and monitoring developments with respect to new and proposed rules and cannot predict or estimate the amount of the additional costs we may incur or the timing of these costs. For example, compliance with the internal control requirements of Section 404 of the Sarbanes-Oxley Act has to date required the commitment of significant resources to document and test the adequacy of our internal control over financial reporting. While our assessment, testing and evaluation of the design and operating effectiveness of our internal control over financial reporting resulted in our conclusion that, as of December 31, 2010, our internal control over financial reporting was effective, we can provide no assurance as to conclusions of management or by our independent registered public accounting firm with respect to the effectiveness of our internal control over financial reporting in the future. These new or changed laws, regulations and standards are subject to varying interpretations, in many cases due to their lack of specificity, and, as a result, their application in practice may evolve over time as new guidance is provided by regulatory and governing bodies. This could result in continuing uncertainty regarding compliance matters and higher costs necessitated by ongoing revisions to disclosure and governance practices. We are committed to maintaining high standards of corporate governance and public disclosure. As a result, we intend to invest the resources necessary to comply with evolving laws, regulations and standards, and this investment may result in increased general and administrative expenses and a diversion of management time and attention from revenue-generating activities to compliance activities. If our efforts to comply with new or changed laws, regulations and standards differ from the activities intended by regulatory or governing bodies, due to ambiguities related to practice or otherwise, regulatory authorities may initiate legal proceedings against us, which could be costly and time-consuming, and our reputation and business may be harmed.

RISKS RELATED TO OWNERSHIP OF OUR COMMON STOCK

THE PRICE OF OUR COMMON STOCK HAS BEEN HIGHLY VOLATILE DUE TO SEVERAL FACTORS THAT WILL CONTINUE TO AFFECT THE PRICE OF OUR STOCK. Our common stock has traded as low as $1.23 and as high as $21.00 between January 1, 2010 and October 31, 2011. Some of the factors leading to this volatility include:

- relatively small amounts of our stock trading on any given day;
- fluctuations in our operating results;
- announcements of technological innovations or new products that we or our competitors make;
- developments with respect to patents or proprietary rights; and
- recent economic downturn and market instability.

OUR COMMON STOCK WILL BE DELISTED FROM NASDAQ CAPITAL MARKET SYSTEM IF WE FAIL TO COMPLY WITH CONTINUED LISTING STANDARDS. Our common stock is currently traded on the NASDAQ Capital Market under the symbol SPEX. If

we fail to meet any of the continued listing standards of the NASDAQ Capital Market, our common stock could be delisted from the NASDAQ Capital Market. These continued listing standards include specifically enumerated criteria, such as:

- a $1.00 minimum closing bid price;
- shareholders equity of $2.5 million;
- 500,000 shares of publicly-held common stock with a market value of at least $1 million;
- 300 round-lot stockholders; and
- compliance with NASDAQ s corporate governance requirements, as well as additional or more stringent criteria that may be applied in the exercise of NASDAQ s discretionary authority.

On two separate occasions in the last few years, NASDAQ has notified the Company that its common stock failed to maintain a minimum bid price of $1.00 as required by the NASDAQ Listing Rules. In both cases, the Company s stock price increased over the $1.00 threshold before NASDAQ delisted the stock. In May, 2010, the Company effected a 1 for 10 reverse stock split which immediately preceded the stock price increase.

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WE COULD FAIL IN FINANCING EFFORTS OR BE DELISTED FROM NASDAQ IF WE FAIL TO RECEIVE SHAREHOLDER APPROVAL WHEN NEEDED. We are required under the NASDAQ Marketplace rules to obtain shareholder approval for any issuance of additional equity securities that would comprise more than 20% of the total shares of our common stock outstanding before the issuance of such securities sold at a discount to the greater of book or market value in an offering that is not deemed to be a public offering by NASDAQ. Funding of our operations in the future may require issuance of additional equity securities that would comprise more than 20% of the total shares of our common stock outstanding. We are requesting that our stockholders provide a generic approval for such issuances, but we may not obtain such approval or we might not be successful in obtaining the required shareholder approval for a specific issuance. If we are unable to obtain financing due to shareholder approval difficulties, such failure may have a material adverse effect on our ability to continue operations.

DIVIDENDS ON OUR COMMON STOCK ARE NOT LIKELY. We do not anticipate paying cash dividends on our common stock in the foreseeable future. Investors must look solely to appreciation in the market price of the shares of our common stock to obtain a return on their investment.

BECAUSE OF THE RIGHTS AGREEMENT AND ANTI-TAKEOVER PROVISIONS IN OUR CERTIFICATE OF INCORPORATION AND BYLAWS, A THIRD PARTY MAY BE DISCOURAGED FROM MAKING A TAKEOVER OFFER THAT COULD BE BENEFICIAL TO OUR STOCKHOLDERS. In 2001, we adopted a shareholder rights plan. We have extended the term of the plan through December 31, 2012. The effect of this rights plan and of certain provisions of our Certificate of Incorporation, By-Laws, and the anti-takeover provisions of the Delaware General Corporation Law, could delay or prevent a third party from acquiring us or replacing members of our board of directors, even if the acquisition or the replacements would be beneficial to our stockholders. These factors could also reduce the price that certain investors might be willing to pay for shares of the common stock and result in the market price being lower than it would be without these provisions.

WHERE YOU CAN FIND MORE INFORMATION

We file annual, quarterly, and current reports, proxy statements, and other documents with the Securities and Exchange Commission. You may read and copy any document we file at the SEC s public reference room at 100 F Street NE, Washington, D.C. 20549. You should call 1-800-SEC-0330 for more information on the public reference room. The SEC maintains an internet site at http://www.sec.gov where certain information regarding issuers (including Spherix) may be found.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to incorporate by reference into this prospectus information we file with the SEC in other documents. This means that we can disclose important information to you by referring to other documents that contain that information. The information may include documents filed after the date of this prospectus which update and supersede the information you read in this prospectus. We incorporate by reference (i) the documents listed below, except to the extent information in those documents is different from the information contained in this prospectus, (ii) all documents filed with the SEC after the date of the initial registration statement and prior to the effectiveness of the registration statement, and (iii) all future documents filed with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, until we terminate the offering of these shares (excluding any that are not deemed filed with the SEC, including any information furnished pursuant to Items 9 or 12 of Form 8-K):

Our Annual Report on Form 10-K for the year ended December 31, 2010.

Our Proxy Statement for the Annual Stockholders Meetings to be held on November 15, 2011.

Our Quarterly Report on Form 10-Q for the periods ended March 31, 2011 and June 30, 2011.

Our Current Reports on Form 8-K filed on January 10, 2011, January 14, 2011, January 20, 2011, February 11, 2011, March 21, 2011, March 30, 2011, April 19, 2011, May 6, 2011, May 13, 2011, May 24, 2011, June 15, 2011, July 14, 2011, August 12, 2011, September 7, 2011, October 27, 2011, November 14, 2011 and November 16, 2011.

All documents we file (but not furnish) under Section 13(a), 13(c), 14 or 15(d) of the Securities Exchange

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Act of 1934 after the date of this prospectus and before the termination of the offering are also incorporated by reference and are an important part of this prospectus. Any statement contained in a document incorporated by reference in this prospectus shall be modified or suspended for purposes of this prospectus to the extent that a statement contained in this prospectus or in any other subsequently filed document which is incorporated by reference modifies or supersedes such statement.

You may request a copy of these documents (other than an exhibit to the filings unless we have specifically incorporated that exhibit by reference into the filing), at no cost, by writing or telephoning us at:

Spherix Incorporated
6430 Rockledge Drive #503

Bethesda, Maryland 20817
Attention: Katherine M. Brailer, Corporate Secretary
Telephone: (301) 897-2540

You should rely only on the information incorporated by reference or provided in this prospectus or any supplement. We have not authorized anyone else to provide you with different information. You should not assume that the information in this prospectus or any supplement is accurate as of any date other than the date on the front of those documents.

Our common stock is listed on The NASDAQ Capital Market and such reports, proxy statements and other information concerning us may be inspected at the office of The NASDAQ Stock Market, 1735 K Street, N.W., Washington, DC 20006.

This prospectus is part of a registration statement that we filed with the SEC (Registration No. 333-177748). The registration statement contains more information than this prospectus regarding Spherix and its securities, including certain exhibits and schedules. You can get a copy of the registration statement from the SEC at the address listed above or from its internet site.

USE OF PROCEEDS

We will retain broad discretion over the use of the net proceeds from the sale of the securities described herein. Unless otherwise indicated in any prospectus supplement, we intend to use the net proceeds from the sale of the securities for continued development of our triclycerides and diabetes products, in-license or other acquisition of additional clinical stage compounds/orphan drugs, general corporate purposes and general and administrative expenses. Pending their application, we expect to invest the net proceeds in investment-grade, interest-bearing instruments.

DESCRIPTION OF CAPITAL STOCK

The following is a description of our capital stock, including our common stock, and other securities and the material provisions of our certificate of incorporation, bylaws and other agreements. The following is only a summary and is qualified by applicable law and by the provisions of our certificate of incorporation, bylaws and other agreements, copies of which are available as set forth under the captions Where You Can Find More Information and Incorporation of Certain Information by Reference.

General

Under our certificate of incorporation, we have 7,000,000 shares of authorized capital stock, of which 5,000,000 shares have been classified as common stock, $0.01 par value per share, and 2,000,000 shares have been classified as preferred stock, $0.01 par value per share. As of October 31, 2011, there were 3,095,047 shares of common stock outstanding and one outstanding share of preferred stock (convertible into 80 shares of common stock).

Common Stock

Subject to the rights of the preferred stock, holders of common stock are entitled to receive such dividends as are declared by our board of directors out of funds legally available for the payment of dividends. We presently intend to retain any earnings to fund the development of our business. Accordingly, we do not anticipate paying any dividends on our common stock for the foreseeable future. Any future determination as to declaration and payment of dividends will be made at the discretion of our board of directors.

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In the event of the liquidation, dissolution, or winding up of Spherix, each outstanding share of our common stock will be entitled to share equally in any of our assets remaining after payment of or provision for our debts, other liabilities and payment to any preferred stockholders.

Holders of common stock are entitled to one vote per share on matters to be voted upon by stockholders. There is no cumulative voting for the election of directors, which means that the holders of shares entitled to exercise more than fifty percent (50%) of the voting rights in the election of directors are able to elect all of the directors.

Holders of common stock have no preemptive rights to subscribe for or to purchase any additional shares of common stock or other obligations convertible into shares of common stock which we may issue after the date of this prospectus.

All of the outstanding shares of common stock are fully paid and non-assessable. Holders of our common stock are not liable for further calls or assessments.

The rights, preferences and privileges of the holders of common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of preferred stock that we may designate in the future.

This prospectus also relates to preferred stock purchase rights attached to our common stock. References in this prospectus to common stock shall be deemed to include the preferred stock purchase rights attached hereto.

Preferred Stock

Our certificate of incorporation authorizes 2,000,000 shares of preferred stock. Our board of directors is authorized, without further stockholder action, to establish various series of such preferred stock from time to time and to determine the rights, preferences and privileges of any unissued series including, among other matters, any dividend rights, dividend rates, conversion rights, voting rights, terms of redemption, liquidation preferences, sinking fund terms, the number of shares constituting any such series, and the description thereof and to issue any such shares. Although there is no current intent to do so, our board of directors may, without stockholder approval, issue shares of a class or series of preferred stock with voting and conversion rights which could adversely affect the voting power of the holders of the common stock. In connection with our adoption of the stockholder rights plan described below, our board of directors designated 500,000 shares of our preferred stock as Series A Junior Participating Preferred Stock. In a prior registered direct offering, we issued shares of Series B Convertible Preferred Stock. The purchasers of such preferred stock converted these shares into common stock with the exception of one share of Series B Convertible Preferred Stock which remains outstanding.

One of the effects of the preferred stock may be to enable the board of directors to render more difficult or to discourage an attempt to obtain control of Spherix by means of a merger, tender offer, proxy contest or otherwise, and thereby to protect the continuity of the management.

In 2001, we adopted a stockholder rights plan in which rights to purchase shares of Series A Junior Participating Preferred Stock (Series A Preferred Stock) were distributed as a dividend at the rate of one right for each share of common stock held as of the close of business on March 1, 2001. The rights are designed to guard against partial tender offers and other abusive and coercive tactics that might be used in an attempt to gain control of Spherix or to deprive our stockholders of their interest in the long-term value of Spherix. These rights seek to achieve these goals by forcing a potential acquirer to negotiate with our board of directors (or go to court to try to force the Board of Directors to redeem the rights), because only the Board of Directors can redeem the rights and allow the potential acquirer to acquire our shares without suffering very significant dilution. However, these rights also could deter or prevent transactions that stockholders deem to be in their interests, and could reduce the price that investors or an acquirer might be willing to pay in the future for shares of our common stock.

The rights will be exercisable only if a person or group acquires ten percent (10%) or more of our common stock (subject to certain exceptions stated in the plan) or announces a tender offer the consummation of which would result in ownership by a person or group of ten percent (10%) or more of our common stock. Our board of directors may redeem the rights at a price of $.001 per right. The rights will expire at the close of business on December 31, 2012 unless the expiration date is extended or unless the rights are earlier redeemed or exchanged by Spherix.

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Options

As of October 31, 2011, there were options held by our employees and others to purchase an aggregate of 3,529 shares of common stock, exercisable at a weighted average exercise price of $11.40 per share. Currently no options/restricted stock available for grant under our option plan.

The exercise price of the warrants may be paid in cash or in shares of common stock.

Warrants

As of October 31, 2011, we had warrants to purchase 1,116,110 shares of our common stock, exercisable at a weighted average exercise price of $9.16 per share. These warrants were issued in connection with our prior equity offerings.

Limitations on Directors Liability

Our certificate of incorporation and bylaws contain provisions indemnifying our directors and officers to the fullest extent permitted by Delaware law.

In addition, as permitted by Delaware law, our certificate of incorporation provides that no director will be liable to us or our stockholders for monetary damages for breach of the director s fiduciary duty as a director. The effect of this provision is to restrict our rights and the rights of our stockholders in derivative suits to recover monetary damages against a director for breach of the director s fiduciary duty as a director, except that a director will be personally liable for:

- any breach of his or her duty of loyalty to us or our stockholders;
- acts or omissions not in good faith which involve intentional misconduct or a knowing violation of law;
- the payment of dividends or the redemption or purchase of stock in violation of Delaware law; or
- any transaction from which the director derived an improper personal benefit.

This provision does not affect a director s liability under the federal securities laws.

To the extent that our directors, officers and controlling persons are indemnified under the provisions contained in our certificate of incorporation or Delaware law against liabilities arising under the Securities Act of 1933, we have been advised that in the opinion of the SEC, such indemnification is against public policy as expressed in the Securities Act of 1933 and is therefore unenforceable.

Provisions of Our Certificate of Incorporation and Delaware Law that May Have an Anti-Takeover Effect

Certain provisions set forth in our certificate of incorporation and Delaware law, which are summarized below, may have an anti-takeover effect and may delay, deter or prevent a tender offer or takeover attempt that a stockholder might consider to be in the stockholder s best interests, including attempts that might result in a premium being paid over the market price for the shares held by stockholders.

Delaware Takeover Statute

Section 203 of the Delaware General Corporation Law (DGCL) prohibits a Delaware corporation that is a public company from engaging in any business combination (as defined below) with any interested stockholder (defined generally as an entity or person beneficially owning 15% or more of the outstanding voting stock of the corporation and any entity or person affiliated with such entity or person) for a person of three years following the date that such stockholder became an interested stockholder, unless:

- before such date, the board of directors of the corporation approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder;

- upon consummation of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the number of shares outstanding those shares owned by persons who are directors and also officers and by employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or

- on or subsequent to such date, the business combination is approved by the board of directors and

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authorized at an annual or special meeting of stockholders, and not by written consent, by the affirmative vote of at least 66-2/3% of the outstanding voting stock that is not owned by the interested stockholder.

Section 203 of the Delaware General Corporation Law defines business combination to include:

- any merger or consolidation involving the corporation and the interested stockholder;
- any sale, transfer, pledge or other disposition of 10% or more of the assets of the corporation involving the interested stockholder;
- subject to certain exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder;
- any transaction involving the corporation that has the effect of increasing the proportionate share of the stock of any class or series of the corporation beneficially owned by the interested stockholder; or
- the receipt by the interested stockholder of the benefit of any loans, advances, guarantees, pledges or other financial benefits provided by or through the corporation.

Undesignated Preferred Stock

Our certificate of incorporation contains provisions that permit our board of directors to issue, without any further vote or action by our stockholders, up to 2,000,000 shares of preferred stock in one or more series and, with respect to each such series, to fix the number of shares constituting the series and the designation of the series, any voting powers of the shares of the series, and any preferences and relative, participating, optional and other special rights and any qualifications, limitations or restrictions, of the shares of such series. Our board could authorize the issuance of shares of preferred stock that could have the effect of delaying, deferring or preventing a transaction or change in control that might involve a premium price for shares of our common stock or otherwise be in their interests.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is American Stock Transfer and Trust Company, LLC, whose address is 59 Maiden Lane, Plaza Level, New York, NY 10038.

Listing

Our common stock is listed on the Nasdaq Capital Market under the symbol SPEX . We have not applied to list our common stock on any other exchange or quotation system.

SELLING STOCKHOLDERS

The following table presents information regarding the selling stockholders beneficial ownership of our common stock as of November 7, 2011 based upon information provided by them which we have not independently verified. Although we have assumed for purposes of the table that the selling stockholders will sell all of the shares offered by this prospectus, because they may from time to time offer all or some of their shares under this prospectus or in another manner, no assurance can be given as to the actual number of shares that will be resold by the selling stockholders (or any of them), or that will be held after completion of any resales. In addition, a selling stockholder may have sold or otherwise disposed of shares in transactions exempt from the registration requirements of the Securities Act or otherwise since the date such selling stockholder provided information to us. The selling stockholders are not making any representation that the shares covered by this prospectus will be offered for sale. Except as may be set forth below, no selling stockholder has held any position, office or other material relationship with us or our predecessors or affiliates within the past three years.

Beneficial ownership is determined in accordance with Regulation 13D of the Securities Act. Under Regulation 13D a person is deemed to be the beneficial owner of a security, subject to certain exceptions, if that person has the right to acquire beneficial ownership of such security within sixty (60) days. As the warrants issued in the Private Placement are immediately exercisable, the shares of common stock underlying the warrants are reflected in the column labeled Number of Shares Owned as of November 7, 2011 in the table below. The column labeled Number of Shares to Be Owned after Sale of Shares Pursuant to this Offering assumes that the selling stockholders sell all the shares registered under this prospectus.

Except as set forth in the table below, the terms of the warrants further provide that, subject to certain

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exceptions, a selling stockholder may not exercise the warrants, to the extent such exercise would cause such selling stockholder, together with its affiliates, to beneficially own a number of shares of common stock which would exceed 4.99% of our then outstanding shares of common stock following such exercise (which upon notice may be increased or decreased, but may not under any circumstances exceed 9.99%), excluding for purposes of such determination shares of common stock issuable upon exercise of the warrants which have not been exercised. Notwithstanding the foregoing, all shares that are issuable to a selling stockholder upon exercise of the warrants are included in the number of shares being offered in this table without taking the 4.99% limitation into account. The selling stockholders may sell all, some or none of their shares in this offering.

	Number of Shares Owned as of November 7, 2011(1)	Number of Shares Offered Hereby(2)	Number of Shares to Be Owned after Sale of Shares Pursuant to this Offering (3)
GCA Strategic Investment Fund Limited	276,777	253,700	23,077
Kingsbrook Opportunities Master Fund LP(4)	215,384	200,000	15,384
Pergament Multi-Strategy Opportunities, LP	200,000	200,000	0
Iroquois Master Fund Ltd.(5)	200,000	200,000	0
Cranshire Capital Master Fund Ltd.(6)	304,495	194,504	109,991
Freestone Advantage Partners II, LP(7)	16,914	16,914	0 .
Total	1,186,657	1,065,118	121,539

(1) Includes all securities directly and indirectly beneficially owned by each selling stockholder calculated in accordance with Regulation 13D of the Securities Act. As noted above, because the warrants are immediately exercisable, the selling stockholders beneficially own the shares of common stock underlying the warrants.

(2) Includes all shares of common stock issued, or issuable upon the exercise of warrants, in connection with the transactions described under Prospectus Summary The Offering.

(3) Assumes all shares registered under this prospectus will be sold.

(4) Kingsbrook Partners LP (Kingsbrook Partners) is the investment manager of Kingsbrook Opportunities Master Fund LP (Kingsbrook Opportunities) and consequently has voting control and investment discretion over securities held by Kingsbrook Opportunities. Kingsbrook Opportunities GP LLC (Opportunities GP) is the general partner of Kingsbrook Opportunities and may be considered the beneficial owner of any securities deemed to be beneficially owned by Kingsbrook Opportunities. KB GP LLC (GP LLC) is the general partner of Kingsbrook Partners and may be considered the beneficial owner of any securities deemed to be beneficially owned by Kingsbrook Partners. Ari J. Storch, Adam J. Chill and Scott M. Wallace are the sole managing members of Opportunities GP and GP LLC and as a result may be considered beneficial owners of any securities deemed beneficially owned by Opportunities GP and GP LLC. Each of Kingsbrook Partners, Opportunities GP, GP LLC and Messrs. Storch, Chill and Wallace disclaim beneficial ownership of these securities.

(5) Iroquois Capital Management L.L.C. (Iroquois Capital) is the investment manager of Iroquois Master Fund, Ltd (IMF). Consequently, Iroquois Capital has voting control and investment discretion over securities held by IMF. As managing members of Iroquois Capital, Joshua Silverman and Richard Abbe make voting and investment decisions on behalf of Iroquois Capital in its capacity as investment manager to IMF. As a result of the foregoing, Mr. Silverman and Mr. Abbe may be deemed to have beneficial ownership (as determined under Section 13(d) of the Securities Exchange Act of 1934, as amended) of the securities held by IMF.

(6) Cranshire Capital Advisors, LLC (CCA) is the investment manager of Cranshire Capital Master Fund, Ltd. (Cranshire Master Fund) and has voting control and investment discretion over securities held by Cranshire Master Fund. Mitchell P. Kopin (Mr. Kopin), the president, the sole member and the sole member of the Board of Managers of CCA, has voting control over CCA. As a result, each of Mr. Kopin and CCA may be deemed to have beneficial ownership (as determined under Section 13(d)

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of the Securities Exchange Act of 1934, as amended) of the securities held by Cranshire Master Fund.

CCA is also the investment manager (i) of Cranshire Capital, L.P. (Cranshire Capital) and (ii) for managed accounts for Freestone Advantage Partners, LP (Freestone) and Freestone Advantage Partners II, LP (Freestone II), and CCA has voting control and investment discretion over securities held by Cranshire Capital and in the managed accounts for Freestone and Freestone II. Mr. Kopin, the president, the sole member and the sole member of the Board of Managers of CCA, has voting control over CCA. As a result, each of Mr. Kopin and CCA also may be deemed to have beneficial ownership (as determined under Section 13(d) of the Securities Exchange Act of 1934, as amended) of an additional 109,991 shares of common stock of the issuer, consisting of (i) 10,000 shares of common stock of the issuer that are held by Cranshire Master Fund, (ii) 79,269 shares of common stock that are issuable upon exercise of warrants held by Cranshire Capital, (iii) 3,808 shares of common stock of the issuer that are issuable upon exercise of warrants held by Freestone, (iv) 8,457 shares of common stock of the issuer that are held by Freestone II and (v) 8,457 shares of common stock of the issuer that are issuable upon exercise of warrants held by Freestone II.

(7) Cranshire Capital Advisors, LLC (CCA) is the investment manager of a managed account for Freestone Advantage Partners II, LP (Freestone II) and has voting control and investment discretion over securities held in by Freestone II in such managed account. Mitchell P. Kopin (Mr. Kopin), the president, the sole member and the sole member of the Board of Managers of CCA, has voting control over CCA. As a result, each of Mr. Kopin and CCA may be deemed to have beneficial ownership (as determined under Section 13(d) of the Securities Exchange Act of 1934, as amended) of the securities held by Freestone II in such managed account.

CCA is also the investment manager (i) of Cranshire Capital, L.P. (Cranshire Capital), (ii) of Cranshire Capital Master Fund, Ltd. (Cranshire Master Fund) and (iii) for a managed account for Freestone Advantage Partners, LP (Freestone), and CCA has voting control and investment discretion over securities held by Cranshire Capital, Cranshire Master Fund and in such managed account for Freestone. Mr. Kopin, the president, the sole member and the sole member of the Board of Managers of CCA, has voting control over CCA. As a result, each of Mr. Kopin and CCA may be deemed to have beneficial ownership (as determined under Section 13(d) of the Securities Exchange Act of 1934, as amended) of the securities held by Cranshire Capital, Cranshire Master Fund and Freestone that are described in footnote [see footnote 6 above].

If and when a selling stockholder sells all of his shares of common stock registered under this prospectus, none of the selling stockholders will own more than one percent (1%) of our common stock at November 7, 2011.

PLAN OF DISTRIBUTION

Each Selling Stockholder (the Selling Stockholders) of the securities and any of their pledgees, assignees and successors-in-interest may, from time to time, sell any or all of their securities covered hereby on the Nasdaq Capital Market or any other stock exchange, market or trading facility on which the securities are traded or in private transactions. These sales may be at fixed or negotiated prices. A Selling Stockholder may use any one or more of the following methods when selling securities:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;

- block trades in which the broker-dealer will attempt to sell the securities as agent but may position and resell a portion of the block as principal to facilitate the transaction;

- purchases by a broker-dealer as principal and resale by the broker-dealer for its account;

- an exchange distribution in accordance with the rules of the applicable exchange;

- privately negotiated transactions;

- settlement of short sales entered into after the effective date of the registration statement of which this prospectus is a part;

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- in transactions through broker-dealers that agree with the Selling Stockholders to sell a specified number of such securities at a stipulated price per security;

- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;

- a combination of any such methods of sale; or

- any other method permitted pursuant to applicable law.

The Selling Stockholders may also sell securities under Rule 144 under the Securities Act of 1933, if available, rather than under this prospectus.

Broker-dealers engaged by the Selling Stockholders may arrange for other brokers-dealers to participate in sales. Broker-dealers may receive commissions or discounts from the Selling Stockholders (or, if any broker-dealer acts as agent for the purchaser of securities, from the purchaser) in amounts to be negotiated, but, except as set forth in a supplement to this Prospectus, in the case of an agency transaction not in excess of a customary brokerage commission in compliance with FINRA Rule 2440; and in the case of a principal transaction a markup or markdown in compliance with FINRA IM-2440.

In connection with the sale of the securities or interests therein, the Selling Stockholders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the securities in the course of hedging the positions they assume. The Selling Stockholders may also sell securities short and deliver these securities to close out their short positions, or loan or pledge the securities to broker-dealers that in turn may sell these securities. The Selling Stockholders may also enter into option or other transactions with broker-dealers or other financial institutions or create one or more derivative securities which require the delivery to such broker-dealer or other financial institution of securities offered by this prospectus, which securities such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

The Selling Stockholders and any broker-dealers or agents that are involved in selling the securities may be deemed to be underwriters within the meaning of the Securities Act in connection with such sales. In such event, any commissions received by such broker-dealers or agents and any profit on the resale of the securities purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. Each Selling Stockholder has informed the Company that it does not have any written or oral agreement or understanding, directly or indirectly, with any person to distribute the securities. In no event shall any broker-dealer receive fees, commissions and markups which, in the aggregate, would exceed eight percent (8%).

The Company is required to pay certain fees and expenses incurred by the Company incident to the registration of the securities. The Company has agreed to indemnify the Selling Stockholders against certain losses, claims, damages and liabilities, including liabilities under the Securities Act.

Because Selling Stockholders may be deemed to be underwriters within the meaning of the Securities Act, they will be subject to the prospectus delivery requirements of the Securities Act including Rule 172 thereunder. In addition, any securities covered by this prospectus which qualify for sale pursuant to Rule 144 under the Securities Act may be sold under Rule 144 rather than under this prospectus. The Selling Stockholders have advised us that there is no underwriter or coordinating broker acting in connection with the proposed sale of the resale securities by the Selling Stockholders.

We agreed to keep this prospectus effective until the earlier of (i) the date on which the securities may be resold by the Selling Stockholders without registration and without regard to any volume or manner-of-sale limitations by reason of Rule 144, without the requirement for the Company to be in compliance with the current public information under Rule 144 under the Securities Act or any other rule of similar effect or (ii) all of the securities have been sold pursuant to this prospectus or Rule 144 under the Securities Act or any other rule of similar effect. The resale securities will be sold only through registered or licensed brokers or dealers if required under applicable state securities laws. In addition, in certain states, the resale securities covered hereby may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

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Under applicable rules and regulations under the Exchange Act, any person engaged in the distribution of the resale securities may not simultaneously engage in market making activities with respect to the common stock for the applicable restricted period, as defined in Regulation M, prior to the commencement of the distribution. In addition, the Selling Stockholders will be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder, including Regulation M, which may limit the timing of purchases and sales of securities of the common stock by the Selling Stockholders or any other person. We will make copies of this prospectus available to the Selling Stockholders and have informed them of the need to deliver a copy of this prospectus to each purchaser at or prior to the time of the sale (including by compliance with Rule 172 under the Securities Act).

LEGAL MATTERS

Baxter, Baker, Sidle, Conn & Jones, P.A. of Baltimore, Maryland, our counsel in connection with the offering, has issued an opinion about the validity of the securities being offered.

EXPERTS

The financial statements and schedules incorporated by reference in this prospectus and elsewhere in the registration statement have been so incorporated by reference in reliance upon the report of Grant Thornton LLP, independent registered public accountants, upon the authority of said firm as experts in accounting and auditing in giving said reports.