

INTERLEUKIN GENETICS INC
 Form 424B5
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 Registration No. 333-163987

PROSPECTUS SUPPLEMENT
 (To Prospectus Dated January 5, 2010)

4,375,002 Units

Units Consisting of
 One Share of Common Stock and
 a Warrant to Purchase 0.40 of a Share of Common Stock

We are offering 4,375,002 units, with each unit consisting of one share of our common stock and a warrant to purchase 0.40 of share of our common stock (and the shares of common stock issuable from time to time upon exercise of the offered warrants), to institutional investors pursuant to this prospectus supplement and the accompanying prospectus. Each unit will be sold at a negotiated price of \$1.20. Each warrant has an exercise price of \$1.30 per share, and is exercisable for a period of five years commencing immediately. The shares of common stock and the warrants will be issued separately but will be purchased together in this offering.

The warrants will not be listed on any securities exchange. Our common stock is currently listed on the NYSE Amex under the symbol "ILI." On March 4, 2010, the last reported sale price of our common stock on the NYSE Amex was \$1.50 per share. As of March 1, 2010, the aggregate market value of our outstanding common stock held by non-affiliates was approximately \$32,294,788 based on 32,118,588 outstanding shares of common stock, of which 23,922,065 shares were held by non-affiliates, and a price of \$1.35 per share, which was the last reported sale price of our common stock as quoted on the NYSE Amex on March 1, 2010. We have offered securities with an aggregate market value of approximately \$7,612,502, consisting of the 4,375,002 shares of common stock and the 1,750,000 shares of common stock issuable upon the exercise of the warrants we are offering hereby, pursuant to General Instruction I.B.6. of Form S-3 during the prior 12 calendar month period that ends on, and includes, the date of this prospectus supplement.

This investment involves a high degree of risk. Please see the section entitled "Risk Factors" beginning on page S-3 of this prospectus supplement and page 4 of the accompanying prospectus.

Rodman & Renshaw, LLC acted as the placement agent on this transaction. The placement agent is not purchasing or selling any of these securities nor is it required to arrange for the sale of any specific number or dollar amount of securities, but has agreed to use its reasonable best efforts to arrange for the sale of the securities offered by this prospectus supplement. We have agreed to pay the placement agent the placement agent fees set forth in the table below.

	Per Unit	Total
Public offering price	\$ 1.200	\$ 5,250,002
Placement agent fees (1)	\$ 0.054	\$ 236,250
Proceeds, before expenses, to Interleukin Genetics, Inc. (2)	\$ 1.146	\$ 5,013,752

(1)

In addition, we have agreed to reimburse the placement agent for certain of its expenses as described under the “Plan of Distribution” in this prospectus supplement.

(2) Excluding proceeds, if any, that we may receive upon the exercise of the warrants.

Delivery of the units is expected to be made on or about March 10, 2010, against payment for such units to be received by us on the same date.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

RODMAN & RENSHAW, LLC

The date of this prospectus supplement is March 5, 2010

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You should rely only on information contained in this prospectus supplement, the accompanying prospectus and the documents we incorporate by reference in this prospectus supplement and the accompanying prospectus. We have not authorized anyone to provide you with information that is different. You should not assume that the information in this prospectus supplement or the accompanying prospectus is accurate as of any date other than the date on the front of this prospectus supplement or the accompanying prospectus or that any document that we incorporated by reference in this prospectus supplement or the accompanying prospectus is accurate as of any date other than its filing date. You should not consider this prospectus supplement or the accompanying prospectus to be an offer or solicitation relating to the securities in any jurisdiction in which such an offer or solicitation relating to the securities is not authorized. Furthermore, you should not consider this prospectus supplement or the accompanying prospectus to be an offer or solicitation relating to the securities if the person making the offer or solicitation is not qualified to do so, or if it is unlawful for you to receive such an offer or solicitation.

ABOUT THIS PROSPECTUS SUPPLEMENT

We are providing information to you about this offering in two parts. The first part is this prospectus supplement, which provides the specific details regarding the offering. The second part is the base prospectus, dated January 5, 2010, included in the registration statement on Form S-3 (No. 333-163987) which we are supplementing with the information contained in this supplement. Generally, when we refer to this “prospectus,” we are referring to both documents combined. Some of the information in the base prospectus may not apply to this offering.

You should also read and consider the information in the documents that we have referred you to in “Incorporation of Certain Information by Reference” on page S-10 of this prospectus supplement and “Where You Can Find More Information” on page S-10 of this prospectus supplement before investing in our securities. The information incorporated by reference is considered to be part of this prospectus supplement, and information that we file later with the Securities and Exchange Commission, or SEC, will automatically update and supersede this information.

If information in this prospectus supplement is inconsistent with the base prospectus, you should rely on this prospectus supplement. We have not authorized anyone to provide information different from that contained or incorporated in this prospectus supplement and the accompanying prospectus. We are offering to sell units only in jurisdictions where offers and sales are permitted. The information contained or incorporated in this prospectus supplement and the accompanying prospectus is accurate only as of the date of such information, regardless of the time of delivery of this prospectus supplement and the accompanying prospectus or of any sale of our units.

In this prospectus supplement, “we,” “us,” “our company,” “Interleukin,” and “Interleukin Genetics” refer to Interleukin Genetics, Inc.

We own or have the rights to use various trademarks, trade names or service marks that are used in this prospectus, including our logo, Inherent Health™ and PST®. All other trademarks, trade names or service marks that are used in this prospectus are the property of their respective owners.

PROSPECTUS SUPPLEMENT SUMMARY

This summary highlights certain information about us, this offering and information appearing elsewhere in this prospectus supplement, in the accompanying prospectus and in the documents we incorporate by reference. This summary is not complete and does not contain all of the information that you should consider before investing in our securities. After you read this summary, to fully understand this offering and its consequences to you, you should read this entire prospectus supplement and the accompanying prospectus carefully, including the information referred to under the heading “Risk Factors” in this prospectus supplement beginning on page S-3, and the financial statements and related notes that we incorporate by reference into this prospectus supplement and the accompanying prospectus.

Interleukin Genetics, Inc.

We are a personalized health company that develops condition-focused, unique genetic tests. Our overall mission is to provide genetic test products that can help individuals maintain or improve their health through preventive measures. Our vision is to use the science of applied genetics to empower individuals and physicians to better understand the set of actions and steps necessary to guide lifestyle and treatment options. We believe that the science of applied genetics can help companies provide improved services to their customers, empower individuals to personalize their health and assist in improving outcomes in drug development and use. We currently have two primary focus areas to our business. The first is personalized health, focused on providing genetic test products and services via third party partners or directly to end users. These products are developed with the goal of providing guidance to individuals interested in improved wellness. The second is research and development, focused on developing genetic tests linked to a partner’s products in medical and dental channels. Both contribute toward our overall mission of providing products that can help individuals maintain or improve their health through preventive or treatment measures. Our revenue is derived from;

- selling our genetic tests to the end users;
- receiving royalties from partners selling our products;
- processing genetic risk assessment tests in our Clinical Laboratory Improvement Amendments of 1988, or CLIA,-certified lab for partners; and
 - conducting research to develop new genetic risk assessment tests for us and partners.

We believe that by providing important genetic information such as the identification of variants in one or more genes, combined with a set of actions and recommendations about possible interventions and guided therapies that may be used based on those variants, we can help individuals improve their health outcomes. We have patents covering the influence of certain gene variations for a number of common chronic diseases and conditions.

We currently have four genetic test products on the market under our Inherent Health brand. The tests consist of:

- Weight Management Genetic Test
- Nutritional Needs Genetic Test
- Bone Health Genetic Test

- Heart Health Genetic Test

In addition we currently market through a partner our Periodontal Disease Genetic Test, PST.

Corporate Information

Our executive offices are located at 135 Beaver Street, Waltham, Massachusetts 02452, and our telephone number is (781) 398-0700. We were incorporated in Texas in 1986 and we re-incorporated in Delaware in March 2000. We maintain websites at www.ilgenetics.com and www.inherenthealth.com. The information on our websites is not incorporated by reference into this prospectus supplement or accompanying prospectus and should not be considered to be a part of this prospectus supplement or the accompanying prospectus. We have included our website addresses only as an inactive textual reference and do not intend them to be active links to our websites.

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The Offering

Common stock offered by us	4,375,002 shares
Common stock to be outstanding after this offering	36,493,590 shares
Warrants offered by us	Warrants to purchase up to 1,750,000 shares of our common stock. Each warrant has an exercise price of \$1.30 per share, and is exercisable for a period of five years commencing immediately. This prospectus supplement also relates to the offering of the shares of common stock issuable upon exercise of the warrants. There is currently no market for the warrants and none is expected to develop after this offering
Use of proceeds	We intend to use the net proceeds of this offering for our operations, including, but not limited to, sales, marketing and promotion expenses, research and development expenses, expansion of infrastructure, working capital, and for other general corporate purposes, including, but not limited to, capital expenditures, possible acquisitions, intellectual property protection and enforcement, and repayment of existing indebtedness or other corporate borrowings. See “Use of Proceeds” on page S-5.
Risk Factors	See “Risk Factors” beginning on page S-3 for a discussion of factors you should consider carefully when making an investment decision.
NYSE Amex symbol	ILI

The number of shares of common stock to be outstanding immediately after this offering as shown above assumes that all of the units offered hereby are sold and is based on 32,118,588 shares of common stock outstanding as of March 4, 2010, and does not include the following:

- 1,086,817 shares of common stock issuable upon exercise of stock options outstanding under our stock plans, at a weighted average exercise price of \$2.58 per share;
 - 1,260,428 shares of common stock available for future grant or issuance pursuant to our stock plans;
- 28,160,200 shares of common stock issuable upon the conversion of the 5,000,000 outstanding shares of our Series A preferred stock held by Pyxis Innovations Inc., or Pyxis;
- 1,584,981 shares of common stock issuable upon conversion of \$9.0 million in convertible debt outstanding under our credit facility with Pyxis;
- 400,000 shares of common stock issuable upon the exercise of outstanding warrants, at an exercise price of \$2.50 per share; and

- 1,750,000 shares of common stock issuable upon the exercise of the warrants offered hereby, at an exercise price of \$1.30 per share.

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RISK FACTORS

Investing in our securities involves risk. Before purchasing our securities, you should carefully consider the following risk factors as well as all other information contained in this prospectus supplement and the accompanying prospectus and incorporated by reference, including our consolidated financial statements and the related notes. The risks and uncertainties described below are not the only ones facing us. Additional risks and uncertainties that we are unaware of, or that we currently deem immaterial, also may become important factors that affect us. If any of the following risks occur, our business, financial condition or results of operations could be materially and adversely affected. In that case, the trading price of our common stock could decline, and you may lose some or all of your investment.

Risks Related to this Offering and our Common Stock

Our stock price has been and is likely to continue to be volatile and the market price of our common stock may drop.

Since January 31, 2008, our stock price has fluctuated from a low of \$0.13 to a high of \$3.00. Furthermore, the stock market has recently experienced significant volatility. The volatility of stocks for companies in our industry often does not relate to the operating performance of the companies represented by the stock. Some of the factors that may cause the market price of our common stock to fluctuate include:

- demand for and acceptance of our products;
- our ability to develop new relationships and maintain and enhance existing relationships with strategic partners;
 - regulatory developments or enforcement in the United States and foreign countries;
 - developments or disputes concerning patents or other proprietary rights;
 - introduction of technological innovations or new products or services by us or our competitors;
- failure to secure adequate capital to fund our operations, or the issuance of equity securities at prices below fair market price;
 - changes in estimates or recommendations by securities analysts, if any cover our common stock;
 - litigation;
 - future sales of our common stock;
 - general market conditions;
 - economic and other external factors or other disasters or crises;
 - period-to-period fluctuations in our financial results; and
 - overall fluctuations in U.S. equity markets.

These and other external factors may cause the market price and demand for our common stock to fluctuate substantially, which may limit or prevent investors from readily selling their shares of common stock and may otherwise negatively affect the liquidity of our common stock. In addition, in the past, when the market price of a

stock has been volatile, holders of that stock have instituted securities class action litigation against the company that issued the stock. If any of our stockholders brought a lawsuit against us, we could incur substantial costs defending the lawsuit. Such a lawsuit could also divert the time and attention of our management.

We may be delisted from the NYSE Amex resulting in a more limited market for our common stock.

In December 2008, we were notified of our failure to comply with the continued listing standards of the NYSE Amex, referred to herein as the Exchange, under section 1003(a)(iii) of the Exchange's Company Guide because our stockholders' equity was less than \$6,000,000 and we have had losses from continuing operations and net losses in our five most recent fiscal years. As of December 31, 2008 and September 30, 2009, our stockholders' equity/(deficit) was \$4.5 million and (\$4.0) million, respectively. On January 27, 2009, we submitted to the Exchange a plan to regain compliance with its continued listing requirements. This plan consists of several elements, but is primarily focused on increasing the sales of our products and services and raising additional equity capital. On March 27, 2009, after a review of the compliance plan initially submitted by us, the Corporate Compliance Staff of the Exchange determined that the compliance plan did not make a reasonable demonstration of our ability to regain compliance with the continued listing standards within the compliance period. We appealed the determination.

On May 11, 2009, upon further review by the Exchange, we were notified that the plan to meet the Exchange's continued listing standards was accepted and the Exchange granted us an extension through December 31, 2009 to become compliant. As a result of the Staff's extension, the Company was not required to attend a hearing before the Listing Qualifications Panel. In December 2009 we submitted additional information to the Exchange and have requested another extension. The Exchange is continuing to review our progress toward regaining compliance. Failure to make significant progress consistent with the plan or to regain compliance with the continued listing standards could result in delisting from the Exchange. If the NYSE Amex delists our common stock, we anticipate that our common stock would be quoted on the OTC Bulletin Board or possibly the so-called "pink sheets." Even if our common stock is quoted on such systems, a delisting by the NYSE Amex could hurt our investors by reducing the liquidity and market price of our common stock. Additionally, a delisting could negatively affect us by reducing the number of investors willing to hold or acquire our common stock, which could negatively affect our ability to raise capital.

Management will have broad discretion as to the use of the proceeds from this offering.

We have not designated the amount of net proceeds we will receive from this offering for any particular purpose. Accordingly, our management will have broad discretion as to the application of these net proceeds and could use them for purposes other than those contemplated at the time of this offering. Our shareholders may not agree with the manner in which our management chooses to allocate and spend the net proceeds.

We do not expect to pay dividends for the foreseeable future and you should not expect to receive any funds without selling your shares of common stock.

We have never declared or paid any cash dividends on our capital stock. Furthermore, our credit facility with Pyxis prohibits us from paying cash dividends without Pyxis's consent. We currently intend to retain any earnings for use in the operation and expansion of our business and do not anticipate paying any cash dividends on our common stock in the foreseeable future. Therefore, you should not expect to receive any funds without selling your shares.

There is no public market for the warrants being offered in this offering.

There is no established public trading market for the warrants being offered in this offering, and we do not expect a market to develop. In addition, we do not intend to apply for listing of the warrants on any securities exchange.

Holders of our warrants will have no rights as a shareholder until such holders exercise their warrants.

Until you acquire shares of common stock upon exercise of your warrants, you will have no rights with respect to the shares underlying such warrants. Upon exercise of your warrants, you will be entitled to exercise the rights of a shareholder only as to matters for which the record date occurs after the exercise date.

Additional Risks Related to Our Business, Operations and an Investment in our Securities

For a discussion of additional risks associated with our business, our industry and an investment in our securities, see the risk factors set forth under the heading "Risk Factors" included in our Annual Report on Form 10-K for the year ended December 31, 2008, as revised or supplemented by our subsequent quarterly reports on Form 10-Q or our current reports on Form 8-K, all of which are on file with the SEC and are incorporated by reference in this prospectus supplement and accompanying prospectus. Before making an investment decision, you should carefully consider these risks as well as other information we include or incorporate by reference in this prospectus supplement and accompanying prospectus. You should be able to bear a complete loss of your investment.

FORWARD-LOOKING STATEMENTS

USE OF PROCEEDS

We estimate that the net proceeds to us from the sale of the securities offered by this prospectus supplement and the accompanying prospectus will be approximately \$4.9 million, after deducting the placement agent's fees and other estimated offering expenses payable by us, which include legal, accounting and printing fees, and excluding the proceeds, if any, from the exercise of the warrants issued in this offering. We intend to use the net proceeds from the sale of securities under this prospectus supplement for our operations and for other general corporate purposes, including, but not limited to sales, marketing and promotion expenses, research and development expenses, expansion of infrastructure, working capital, and for other general corporate purposes, including, but not limited to, capital expenditures, possible acquisitions, intellectual property protection and enforcement, and repayment of existing indebtedness or other corporate borrowings. We have not determined the amount of net proceeds to be used specifically for the foregoing purposes. As a result, our management will have broad discretion in the allocation of the net proceeds. Pending use of the net proceeds, we intend to invest any proceeds in a variety of capital preservation instruments, including short-term, investment-grade, interest-bearing instruments.

DILUTION

Our net tangible book value on September 30, 2009 was approximately \$(4.7) million, or approximately \$(0.15) per share of common stock. Net tangible book value per share is determined by dividing our net tangible book value, which consists of tangible assets less total liabilities, by the number of shares of common stock outstanding on that date. Without taking into account any other changes in our net tangible book value after September 30, 2009, other than to give effect to our receipt of the estimated net proceeds from the sale of 4,375,002 units at an offering price of \$1.20 per unit, less the placement agent fees and our estimated offering expenses, our as adjusted net tangible book value as of September 30, 2009, after giving effect to the items above, would have been approximately \$132,000, or \$0.00 per share. This represents an immediate increase in net tangible book value of \$0.15 per share of common stock to our existing stockholders and an immediate dilution in net tangible book value of \$1.20 per share of common stock to purchasers of units in this offering. The following table illustrates this per share dilution:

Public offering price per unit	\$	1.20
Net tangible book value per share as of September 30, 2009	\$	(0.15)
Increase per share attributable to this offering	\$	0.15
As adjusted net tangible book value per share after this offering		0.00
Dilution per share to purchasers in this offering	\$	1.20

The above table is based on 32,079,833 shares of our common stock outstanding as of September 30, 2009 and excludes, as of September 30, 2009:

- 1,487,117 shares of common stock issuable upon exercise of stock options outstanding under our stock plans, at a weighted average exercise price of \$2.83 per share;
- 1,367,178 shares of common stock available for future grant or issuance pursuant to our stock plans;
- 28,160,200 shares of common stock issuable upon the conversion of the 5,000,000 outstanding shares of our Series A preferred stock held by Pyxis;

- 880,545 shares of common stock issuable upon conversion of \$5.0 million in convertible debt outstanding under our credit facility with Pyxis;
- 400,000 shares of common stock issuable upon the exercise of outstanding warrants, at an exercise price of \$2.50 per share; and
- 1,750,000 shares of common stock issuable upon the exercise of the warrants offered hereby, at an exercise price of \$1.30 per share.

To the extent that any of these shares are issued, or options or warrants are exercised, or the Series A preferred stock or convertible debt is converted, new options or other equity incentive awards are issued under our stock plans or we otherwise issue additional shares of common stock in the future, there will be further dilution to the new investors.

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DESCRIPTION OF THE SECURITIES WE ARE OFFERING

In this offering, we are offering a maximum of 4,375,002 units, consisting of 4,375,002 shares of common stock and warrants to purchase 1,750,000 shares of common stock. Each unit consists of one share of common stock and warrants to purchase 0.40 of a share of common stock at an exercise price of \$1.30 per share. The shares of common stock and the warrants will be issued separately but will be purchased together in this offering. This prospectus supplement also relates to the offering of shares of common stock upon the exercise, if any, of the warrants issued in this offering.

Common Stock

The material terms and provisions of our common stock are described under the caption “Description of Common Stock and Preferred Stock” starting on page 7 of the accompanying prospectus.

Warrants

The material terms and provisions of the warrants being offered pursuant to this prospectus supplement and the accompanying prospectus are summarized below. A form of the warrants is filed as an exhibit to a current report on Form 8-K filed with the SEC in connection with this offering and reference is made thereto for a complete description of the warrants.

Term; Exercise Price and Exercisability. The warrants to be issued in this offering represent the rights to purchase up to 1,750,000 shares of common stock at an exercise price of \$1.30 per share. Each warrant will be exercisable for a period of five years commencing immediately. The number of shares of common stock that may be acquired by any holder upon any exercise of the warrant will be limited to the extent necessary to insure that, following such exercise (or other issuance), the total number of shares of common stock then beneficially owned by such holder and its affiliates and any other persons whose beneficial ownership of our common stock would be aggregated with the holder’s for purposes of Section 13(d) of the Securities Exchange Act of 1934, as amended, does not exceed 4.9% of the total number of issued and outstanding shares of common stock (including for such purpose the shares of common stock issuable upon such exercise), or beneficial ownership limitation. The holder may elect to change this beneficial ownership limitation from 4.9% to 9.99% of the total number of issued and outstanding shares of common stock (including for such purpose the shares of common stock issuable upon such exercise) upon 61 days’ prior written notice.

Manner of Exercise. Holders of the warrants may exercise their warrants to purchase shares of common stock on or before the expiration date by delivering (i) notice of exercise, appropriately completed and duly signed, and (ii) if such holder is not utilizing the cashless exercise provisions with respect to the warrants, payment of the exercise price for the number of shares with respect to which the warrant is being exercised. Warrants may be exercised in whole or in part, but only for full shares. We provide certain buy-in rights to a holder if we fail to deliver the shares of common stock underlying the warrants by the third trading day after the date on which the holder satisfies all of the requirements for exercise. The buy-in rights apply if after the third trading day after the date on which the holder satisfies all of the requirements for exercise, the holder purchases (in an open market transaction or otherwise) shares of common stock to deliver in satisfaction of a sale by the holder of the warrant shares that the holder anticipated receiving from us upon exercise of the warrant. In this event, we will:

- pay in cash to the holder the amount equal to the excess (if any) of the buy-in price over the product of (A) such number of shares of common stock, times (B) the price at which the sell order giving rise to holder’s purchase obligation was executed; and

- at the election of holder, either (A) reinstate the portion of the warrant as to such number of shares of common stock, or (B) deliver to the holder a certificate or certificates representing such number of shares of common stock.

In addition, the warrant holders are entitled to a “cashless exercise” option if, at any time of exercise, there is no effective registration statement registering, or no current prospectus available for, the issuance or resale of the shares of common stock underlying the warrants. This option entitles the warrant holders to elect to receive fewer shares of common stock without paying the cash exercise price. The number of shares to be issued would be determined by a formula based on the total number of shares with respect to which the warrant is being exercised, the daily volume weighted average price for our common stock on the trading day immediately prior to the date of exercise and the applicable exercise price of the warrants.

The shares of common stock issuable on exercise of the warrants will be, when issued and paid for in accordance with the warrants, duly authorized, validly issued and fully paid and non-assessable. We will authorize and reserve at least that number of shares of common stock equal to the number of shares of common stock issuable upon exercise of all outstanding warrants.

Fundamental Transaction. If, at any time while the warrants are outstanding, (1) we consolidate or merge with or into another corporation and we are not the surviving corporation, (2) we sell, lease, license, assign, transfer, convey or otherwise dispose of all or substantially all of our assets, (3) any purchase offer, tender offer or exchange offer (whether by us or another individual or entity) is completed pursuant to which holders of our common stock are permitted to sell, tender or exchange their shares for other securities, cash or property and has been accepted by the holders of 50% or more of our outstanding shares of common stock, (4) we effect any reclassification or recapitalization of our common stock or any compulsory share exchange pursuant to which our shares of common stock are converted into or exchanged for other securities, cash or property, or (5) we consummate a stock or share purchase agreement or other business combination with another person or entity whereby such other person or entity acquires more than 50% of our outstanding common stock, each, a “Fundamental Transaction,” then upon any subsequent exercise of the warrants, the holders thereof will have the right to receive the same amount and kind of securities, cash or property as it would have been entitled to receive upon the occurrence of such Fundamental Transaction if it had been, immediately prior to such Fundamental Transaction, the holder of the number of warrant shares then issuable upon exercise of the warrant, and any additional consideration payable as part of the Fundamental Transaction. Any successor to us or surviving entity will assume the obligations under the warrant. In the event of certain Fundamental Transactions, the holders of the warrants will be entitled to receive, in lieu of our common stock and at the holders’ option, cash in an amount equal to the value of the remaining unexercised portion of the warrant on the date of the transaction determined using the Black-Scholes option pricing model.

Certain Adjustments. The exercise price and the number of shares of common stock purchasable upon the exercise of the warrants are subject to adjustment upon the occurrence of specific events, including stock dividends, stock splits, combinations and reclassifications of our common stock and rights offerings and pro rata distributions with respect to all holders of our common stock.

Delivery of Certificates. Upon the holder’s exercise of a warrant, we will promptly, but in no event later than three trading days after the exercise date (referred to as the “exercise share delivery date”), issue and deliver, or cause to be issued and delivered, a certificate for the shares of common stock issuable upon exercise of the warrant. In addition, we will, if the holder provides the necessary information to us, issue and deliver the shares electronically through The Depository Trust Corporation through its Deposit Withdrawal Agent Commission System (DWAC) or another established clearing corporation performing similar functions.

Notice of Corporate Action. We will provide at least 20 days prior notice to holders of the warrants to provide them with the opportunity to exercise their warrants and hold shares of common stock in order to participate in or vote on the following corporate events:

- if we shall take a record of the holders of our common stock for the purpose of entitling them to receive a dividend or other distribution, or any right to subscribe for or purchase any shares of stock of any class or any other right;
- if we authorize or approve, enter into any agreement contemplating, or solicit shareholder approval for any transaction that would be deemed a Fundamental Transaction as described above; or
 - a voluntary dissolution, liquidation or winding up of our company.

Additional Provisions. We are not required to issue fractional shares upon the exercise of the warrants. No holders of the warrants will possess any rights as a shareholder under those warrants until the holder exercises those warrants. The warrants may be transferred independent of the shares of common stock they were issued with, on a form of assignment, subject to all applicable laws.

PLAN OF DISTRIBUTION

We have entered into a placement agency agreement, dated as of March 3, 2010, with Rodman & Renshaw, LLC, as placement agent which we refer to as the placement agency agreement. Subject to the terms and conditions contained in the placement agency agreement, Rodman & Renshaw, LLC has agreed to act as our placement agent in connection with this offering. The placement agent is not purchasing or selling any securities offered by this prospectus supplement and the accompanying prospectus, nor is the placement agent required to arrange the purchase or sale of any specific number or dollar amount of the securities, but the placement agent has agreed to use its reasonable best efforts to arrange for the sale of all of the securities in this offering. There is no requirement that any minimum number of units or dollar amount of units be sold in this offering and there can be no assurance that we will sell all or any of the units being offered.

The placement agency agreement provides that the obligations of the placement agent and the investors are subject to certain conditions precedent, including, among other things, the absence of any material adverse change in our business and the receipt of certain opinions, letters and certificates from us or our counsel.

We currently anticipate that the closing of this offering will take place on or about March 10, 2010. On the closing date, the following will occur:

- we will receive funds in the amount of the aggregate purchase price;
- the placement agent will receive the placement agent fees in accordance with the terms of the placement agency agreement; and
- we will deliver the units to the investors.

The placement agent proposes to arrange for the sale to one or more purchasers of the securities offered pursuant to this prospectus supplement and the accompanying prospectus.

We will pay the placement agent an aggregate cash commission equal to 4.5% of the gross proceeds from the sale of the units in this offering. Subject to compliance with FINRA Rule 5110(f)(2)(D), we will also reimburse the placement agent for legal and other expenses incurred by it in connection with this offering in an amount equal to 0.75% of the aggregate offering proceeds but in no event more than \$25,000.

Under no circumstances will the fee, commission or discount received by the placement agent or any other member of FINRA or independent broker-dealer exceed 8% of the gross proceeds to us in this offering or any other offering in the United States pursuant to this prospectus supplement and the accompanying prospectus.

The estimated offering expenses payable by us, in addition to the aggregate fee of \$236,250 due to the placement agent, are approximately \$150,000 which includes legal, accounting and filing fees various other fees and expenses associated with registering the securities and listing the common stock. After deducting certain fees due to the placement agent and our estimated offering expenses, we expect the net proceeds from this offering to be approximately \$4.9 million if the maximum number of units are sold.

The following table shows the per unit and total commissions we will pay to the placement agent in connection with the sale of the units offered pursuant to this prospectus supplement and the accompanying prospectus, assuming the purchase of all of the units offered hereby.

Per unit placement agent fees	\$ 0.054
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Maximum offering total \$ 236,250

Because there is no minimum offering amount required as a condition to closing in this offering, the actual total offering fees, if any, are not presently determinable and may be substantially less than the maximum amount set forth above.

We have agreed to indemnify the placement agent and certain other persons against certain liabilities relating to or arising out of the placement agent's activities under the placement agency agreement. We also have agreed to contribute to payments the placement agent may be required to make in respect of such liabilities.

A copy of the placement agency agreement, the form of securities purchase agreement we entered into with the purchasers and the form of warrant are included as exhibits to a current report on Form 8-K that was filed with the SEC in connection with the consummation of this offering.

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The placement agent has informed us that it will not engage in over allotment, stabilizing transactions or syndicate covering transactions in connection with this offering.

The transfer agent for our shares of common stock to be issued in this offering is Computershare Trust Company. We will act as transfer agent for the warrants being offered hereby.

Our common stock is currently traded on the NYSE Amex under the symbol "ILI." The warrants to purchase shares of common stock issued to the investors in this offering are not expected to be eligible for trading on any market.

The purchase price per unit and the exercise price for the warrants were determined based on negotiations with the purchasers and discussions with the placement agent based on current market factors.

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LEGAL MATTERS

The validity of the issuance of the securities offered hereby will be passed upon for us by Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C. The placement agent is being represented in connection with this offering by Weinstein Smith LLP, New York, New York.

EXPERTS

The financial statements and schedule incorporated by reference in this prospectus supplement 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.

WHERE YOU CAN FIND MORE INFORMATION

We are subject to the reporting requirements of the Securities Exchange Act of 1934, as amended, and file annual, quarterly and current reports, proxy statements and other information with the SEC. You may read and copy these reports, proxy statements and other information at the SEC's public reference facilities at 100 F Street, N.E., Room 1580, Washington, D.C. 20549. You can request copies of these documents by writing to the SEC and paying a fee for the copying cost. Please call the SEC at 1-800-SEC-0330 for more information about the operation of the public reference facilities. SEC filings are also available at the SEC's web site at <http://www.sec.gov>. Copies of information filed by us with the SEC are also available on our website at <http://www.ilgenetics.com> under the heading "Investors."

Our common stock is listed on the NYSE Amex, and you can read and inspect our filings at the offices of the Financial Industry Regulatory Authority at 1735 K Street, Washington, D.C. 20006.

This prospectus supplement and the accompanying prospectus are only part of a registration statement on Form S-3 that we have filed with the SEC under the Securities Act of 1933, as amended, and therefore omit certain information contained in the registration statement. We have also filed exhibits and schedules with the registration statement that are excluded from this prospectus supplement and the accompanying prospectus, and you should refer to the applicable exhibit or schedule for a complete description of any statement referring to any contract or other document. You may inspect a copy of the registration statement, including the exhibits and schedules, without charge, at the public reference room or obtain a copy from the SEC upon payment of the fees prescribed by the SEC.

INCORPORATION OF DOCUMENTS BY REFERENCE

The SEC allows us to "incorporate by reference" information that we file with them. Incorporation by reference allows us to disclose important information to you by referring you to those other documents. The information incorporated by reference is an important part of this prospectus supplement and the accompanying prospectus, and information that we file later with the SEC will automatically update and supersede this information. The documents we are incorporating by reference into this prospectus supplement are (unless otherwise noted, the SEC file number for each of the documents listed below is 001-32715):

- Our annual report on Form 10-K for the fiscal year ended December 31, 2008, filed on March 25, 2009;
- Our quarterly reports on Form 10-Q for the quarters ended March 31, 2009, June 30, 2009 and September 30, 2009, filed on May 14, 2009, August 13, 2009 and November 12, 2009, respectively;
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Our current reports on Form 8-K filed on January 15, 2009, March 13, 2009, March 31, 2009, May 15, 2009 (with respect to Item 3.01 only), June 4, 2009, July 8, 2009, October 30, 2009, January 25, 2010, February 2, 2010, March 1, 2010, March 3, 2010 and March 5, 2010;

- The portions of our Definitive Proxy Statement on Schedule 14A that are deemed "filed" with the SEC under the Securities Exchange Act of 1934, as amended, filed on April 30, 2009;
- The description of our common stock contained in Item 1 of our Registration Statement on Form 8-A dated December 27, 2005, including any amendment or report filed for the purpose of updating such description;
- all reports and other documents subsequently filed by us pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Securities Exchange Act of 1934, as amended, after the date of this prospectus and prior to the termination or completion of the offering of securities under this prospectus shall be deemed to be incorporated by reference in this prospectus and to be a part hereof from the date of filing such reports and other documents.

Any statement contained in this prospectus supplement or in a document incorporated or deemed to be incorporated by reference into this prospectus supplement will be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus supplement or any other subsequently filed document that is deemed to be incorporated by reference into this prospectus supplement modifies or supersedes the statement. Any statement so modified or superseded will not be deemed, except as so modified or superseded, to constitute a part of this prospectus supplement.

You may request, orally or in writing, a copy of any or all of the documents incorporated herein by reference. These documents will be provided to you at no cost, by contacting: Investor Relations, Interleukin Genetics, Inc., 135 Beaver Street, Waltham, Massachusetts 02452. Our telephone number is (781) 398-0700.

You should rely only on information contained in, or incorporated by reference into, this prospectus supplement and the accompanying prospectus. We have not authorized anyone to provide you with information different from that contained in this prospectus or incorporated by reference in this prospectus supplement and the accompanying prospectus. We are not making offers to sell the securities in any jurisdiction in which such an offer or solicitation is not authorized or in which the person making such offer or solicitation is not qualified to do so or to anyone to whom it is unlawful to make such offer or solicitation.

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PROSPECTUS

INTERLEUKIN GENETICS, INC.

\$75,000,000

COMMON STOCK
PREFERRED STOCK
DEBT SECURITIES
WARRANTS
RIGHTS
PURCHASE CONTRACTS
UNITS

This prospectus will allow us to issue, from time to time at prices and on terms to be determined at or prior to the time of the offering, up to \$75,000,000 of any combination of the securities described in this prospectus, either individually or in units. This prospectus describes the general terms of these securities and the general manner in which these securities will be offered. We will provide you with specific terms of any offering in one or more supplements to this prospectus. The prospectus supplements will also describe the specific manner in which these securities will be offered and may also supplement, update or amend information contained in this document. You should read this prospectus and any prospectus supplement, as well as any documents incorporated by reference into this prospectus or any prospectus supplement, carefully before you invest. Our securities may be sold directly by us to you, through agents designated from time to time or to or through underwriters or dealers. For additional information on the methods of sale, you should refer to the section entitled "Plan of Distribution" in this prospectus and in the applicable prospectus supplement. If any underwriters or agents are involved in the sale of our securities with respect to which this prospectus is being delivered, the names of such underwriters or agents and any applicable fees, commissions or discounts and over-allotment options will be set forth in a prospectus supplement. The price to the public of such securities and the net proceeds that we expect to receive from such sale will also be set forth in a prospectus supplement.

Our common stock is listed on the NYSE Alternext under the symbol "ILI." On January 5, 2010, the last reported sale price of our common stock was \$0.81 per share. The applicable prospectus supplement will contain information, where applicable, as to listing, if any, on NYSE Alternext or any securities market or other securities exchange of other securities covered by the prospectus supplement. Prospective purchasers of our securities are urged to obtain current information as to the market prices of our securities, where applicable. As of November 11, 2009, the aggregate market value of our outstanding common stock held by non-affiliates was approximately \$25,974,930, based on 32,102,435 shares of outstanding common stock, of which 25,218,379 shares were held by non-affiliates, and a per share price of \$1.03, the closing sale price of our common stock on that date. We have not offered any securities during the period of 12 calendar months immediately prior to, and including, the date of this prospectus pursuant to General Instruction I.B.6. of Form S-3.

Investing in our securities involves a high degree of risk. Before deciding whether to invest in our securities, you should consider carefully the risks that we have described on page 4 of this prospectus under the caption "Risk Factors." We may include specific risk factors in supplements to this prospectus under the caption "Risk Factors."

This prospectus may not be used to offer or sell our securities unless accompanied by a prospectus supplement.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or determined if this prospectus is truthful or complete. Any representation to the contrary is a criminal offense.

The date of this prospectus is January 5, 2010.

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission, or SEC, utilizing a "shelf" registration process. Under this shelf registration process, we may offer shares of our common stock and preferred stock, various series of debt securities and/or warrants, rights or purchase contracts to purchase any of such securities, either individually or in units, in one or more offerings, with a total value of up to \$75,000,000. This prospectus provides you with a general description of the securities we may offer. Each time we offer a type or series of securities under this prospectus, we will provide a prospectus supplement that will contain specific information about the terms of that offering.

This prospectus does not contain all of the information included in the registration statement. For a more complete understanding of the offering of the securities, you should refer to the registration statement, including its exhibits. The prospectus supplement may also add, update or change information contained or incorporated by reference in this prospectus. However, no prospectus supplement will fundamentally change the terms that are set forth in this prospectus or offer a security that is not registered and described in this prospectus at the time of its effectiveness. This prospectus, together with the applicable prospectus supplements and the documents incorporated by reference into this prospectus, includes all material information relating to the offering of securities under this prospectus. You should carefully read this prospectus, the applicable prospectus supplement, the information and documents incorporated herein by reference and the additional information under the heading "Where You Can Find More Information" before making an investment decision.

You should rely only on the information we have provided or incorporated by reference in this prospectus or any prospectus supplement. We have not authorized anyone to provide you with information different from that contained or incorporated by reference in this prospectus. No dealer, salesperson or other person is authorized to give any information or to represent anything not contained or incorporated by reference in this prospectus. You must not rely on any unauthorized information or representation. This prospectus is an offer to sell only the securities offered hereby, but only under circumstances and in jurisdictions where it is lawful to do so. You should assume that the information in this prospectus or any prospectus supplement is accurate only as of the date on the front of the document and that any information we have incorporated herein by reference is accurate only as of the date of the document incorporated by reference, regardless of the time of delivery of this prospectus or any sale of a security.

This prospectus may not be used to consummate sales of our securities, unless it is accompanied by a prospectus supplement. To the extent there are inconsistencies between any prospectus supplement, this prospectus and any documents incorporated by reference, the document with the most recent date will control.

"Interleukin Genetics," "Interleukin," "the Company," "we," "us," "our" and similar terms refer to Interleukin Genetics, Inc. and our subsidiaries, unless the context requires otherwise.

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PROSPECTUS SUMMARY

The following is a summary of what we believe to be the most important aspects of our business and the offering of our securities under this prospectus. We urge you to read this entire prospectus, including the more detailed consolidated financial statements, notes to the consolidated financial statements and other information incorporated by reference from our other filings with the SEC or included in any applicable prospectus supplement. Investing in our securities involves risks. Therefore, carefully consider the risk factors in any prospectus supplements and in our most recent annual and quarterly filings with the SEC, as well as other information in this prospectus and any prospectus supplements and the documents incorporated by reference herein or therein, before purchasing our securities. Each of the risk factors could adversely affect our business, operating results and financial condition, as well as adversely affect the value of an investment in our securities.

About Interleukin Genetics, Inc.

Interleukin Genetics, Inc. is a genetics-focused health care company that develops genetic tests for sale to the emerging personalized health market. Our vision is to build a leading personalized health and wellness company. We believe that the science of applied genetics can empower individuals to personalize their health as well as provide valuable information to assist in drug development. We currently have two primary focus areas to our business. The first is focused on providing genetic test products to customers. These products are distributed via sales partners and our own sales channels, with the goal of providing guidance for the individual interested in improving their health and wellness. The second is a research and development effort focused on developing genetic tests linked to a partner's products for marketing and sales into medical and dental channels. Both areas contribute toward our overall mission of providing products that can help individuals improve and maintain their health through preventive or actionable measures. We plan to pursue improving personalized healthcare for patients by:

- processing genetic risk assessment tests in our CLIA-certified lab or in labs of sub licensees for ourselves or for partners;
- distributing existing and developing new genetic risk assessment tests for use in multiple indications, countries and demographics;
- conducting funded research with partners

We believe that by providing important genetic information to our customers or identifying those individuals whose risk for certain chronic diseases may be increased due to their genetics, can help improve their health outcomes. We have patents covering the influence of certain gene variations on risk for a number of common chronic diseases and conditions.

We currently have four genetic test products on the market under our Inherent Health™ brand. The tests consist of:

- Weight Management Genetic Test
-

Nutritional Needs Genetic Test

-

Bone Health Genetic Test

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Heart Health Genetic Test

In addition we currently market through a partner our Periodontal Disease Genetic Test, PST®.

Our executive offices are located at 135 Beaver Street, Waltham, Massachusetts 02452, and our telephone number is (781) 398-0700. We were incorporated in Texas in 1986 and we re-incorporated in Delaware in March 2000. We maintain a website at www.ilgenetics.com . Our annual reports on

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Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K, and all amendments to such reports are available to you free of charge through the "Investors" section of our website as soon as practicable after such materials have been electronically filed with, or furnished to, the Securities and Exchange Commission. The information contained on our website is not incorporated by reference into this Form 10-K. We have included our website address only as an inactive textual reference and do not intend it to be an active link to our website

Offerings Under This Prospectus

Under this prospectus, we may offer shares of our common stock and preferred stock, various series of debt securities and/or warrants, rights or purchase contracts to purchase any of such securities, either individually or in units, with a total value of up to \$75,000,000, from time to time at prices and on terms to be determined by market conditions at the time of offering. This prospectus provides you with a general description of the securities we may offer. Each time we offer a type or series of securities under this prospectus, we will provide a prospectus supplement that will describe the specific amounts, prices and other important terms of the securities, including, to the extent applicable:

- designation or classification;
- aggregate principal amount or aggregate offering price;
- maturity, if applicable;
- rates and times of payment of interest or dividends, if any;
- redemption, conversion or sinking fund terms, if any;
- voting or other rights, if any;
- conversion or exercise prices, if any; and
- important United States federal income tax considerations.

The prospectus supplement also may add, update or change information contained in this prospectus or in documents we have incorporated by reference into this prospectus. However, no prospectus supplement will offer a security that is not registered and described in this prospectus at the time of its effectiveness.

This prospectus may not be used to consummate a sale of any securities unless it is accompanied by a prospectus supplement.

We may sell the securities directly to investors or to or through agents, underwriters or dealers. We, and our agents or underwriters, reserve the right to accept or reject all or part of any proposed purchase of securities. If we offer securities through agents or underwriters, we will include in the applicable prospectus supplement:

- the names of those agents or underwriters;
- applicable fees, discounts and commissions to be paid to them;
- details regarding over-allotment options, if any; and
- the net proceeds to us.

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RISK FACTORS

Investing in our securities involves significant risk. The prospectus supplement applicable to each offering of our securities will contain a discussion of the risks applicable to an investment in Interleukin Genetics. Prior to making a decision about investing in our securities, you should carefully consider the specific factors discussed under the heading "Risk Factors" in the applicable prospectus supplement, together with all of the other information contained or incorporated by reference in the prospectus supplement or appearing or incorporated by reference in this prospectus. You should also consider the risks, uncertainties and assumptions discussed under the heading "Risk Factors" included in our most recent annual report on Form 10-K, as revised or supplemented by our subsequent quarterly reports on Form 10-Q or our current reports on Form 8-K, each of which are on file with the SEC and are incorporated herein by reference, and which may be amended, supplemented or superseded from time to time by other reports we file with the SEC in the future.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

The SEC encourages companies to disclose forward-looking information so that investors can better understand a company's future prospects and make informed investment decisions. This prospectus and the documents we have filed with the SEC that are incorporated herein by reference contain such "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of 1995.

Such statements in connection with any discussion of future operations or financial performance are identified by the use of words such as "may," "anticipate," "estimate," "expect," "project," "intend," "plan," "believe," and other words and terms of similar meaning. Such statements are based on management's expectations and are subject to certain factors, risks and uncertainties that may cause actual results, outcome of events, timing and performance to differ materially from those expressed or implied by such statements. These risks and uncertainties include, but are not limited to, the factors detailed under the heading "Risk Factors" in this prospectus as updated and supplemented by the discussion of risks and uncertainties under "Risk Factors" contained in any supplements to this prospectus and in our most recent annual report on Form 10-K, as revised or supplemented by our subsequent quarterly reports on Form 10-Q or our current reports on Form 8-K, as well as any amendments thereto, as filed with the SEC and which are incorporated herein by reference. The information contained in this document is believed to be current as of the date of this document. We do not intend to update any of the forward-looking statements after the date of this document to conform these statements to actual results or to changes in our expectations, except as required by law.

In light of these assumptions, risks and uncertainties, the results and events discussed in the forward-looking statements contained in this prospectus or in any document incorporated herein by reference might not occur. Investors are cautioned not to place undue reliance on the forward-looking statements, which speak only as of the date of this prospectus or the date of the document incorporated by reference in this prospectus. We are not under any obligation, and we expressly disclaim any obligation, to update or alter any forward-looking statements, whether as a result of new information, future events or otherwise. All subsequent forward-looking statements attributable to us or to any person acting on our behalf are expressly qualified in their entirety by the cautionary statements contained or referred to in this section.

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USE OF PROCEEDS

We cannot assure you that we will receive any proceeds in connection with securities offered pursuant to this prospectus. Unless otherwise indicated in the applicable prospectus supplement, we intend to use any net proceeds from the sale of securities under this prospectus for our operations, including, but not limited to, sales, marketing and promotion expenses, research and development expenses, expansion of infrastructure, working capital, and for other general corporate purposes, including, but not limited to, repayment or refinancing of existing indebtedness or other corporate borrowings, capital expenditures and possible acquisitions. We have not determined the amounts we plan to spend on any of the areas listed above or the timing of these expenditures. As a result, our management will have broad discretion to allocate the net proceeds, if any, we receive in connection with securities offered pursuant to this prospectus for any purpose. Pending application of the net proceeds as described above, we may initially invest the net proceeds in short-term, investment-grade, interest-bearing securities or apply them to the reduction of short-term indebtedness.

PLAN OF DISTRIBUTION

We may offer securities under this prospectus from time to time pursuant to underwritten public offerings, negotiated transactions, block trades or a combination of these methods. We may sell the securities (1) through underwriters or dealers, (2) through agents or (3) directly to one or more purchasers, or through a combination of such methods. We may distribute the securities from time to time in one or more transactions at:

- a fixed price or prices, which may be changed from time to time;
- market prices prevailing at the time of sale;
- prices related to the prevailing market prices; or
- negotiated prices.

We may directly solicit offers to purchase the securities being offered by this prospectus. We may also designate agents to solicit offers to purchase the securities from time to time. We will name in a prospectus supplement any underwriter or agent involved in the offer or sale of the securities.

If we utilize a dealer in the sale of the securities being offered by this prospectus, we will sell the securities to the dealer, as principal. The dealer may then resell the securities to the public at varying prices to be determined by the dealer at the time of resale.

If we utilize an underwriter in the sale of the securities being offered by this prospectus, we will execute an underwriting agreement with the underwriter at the time of sale, and we will provide the name of any underwriter in the prospectus supplement which the underwriter will use to make resales of the securities to the public. In connection with the sale of the securities, we, or the purchasers of the securities for whom the underwriter may act as agent, may compensate the underwriter in the form of underwriting discounts or commissions. The underwriter may sell the securities to or through dealers, and the underwriter may compensate those dealers in the form of discounts,

concessions or commissions.

With respect to underwritten public offerings, negotiated transactions and block trades, we will provide in the applicable prospectus supplement any compensation we pay to underwriters, dealers or agents in connection with the offering of the securities, and any discounts, concessions or commissions allowed by underwriters to participating dealers. Underwriters, dealers and agents participating in the distribution of the securities may be deemed to be underwriters within the meaning of the Securities Act of 1933, as amended, or the Securities Act, and any discounts and commissions received by them and any profit realized by them on resale of the securities may be deemed to be underwriting discounts and commissions. We may enter into agreements to indemnify underwriters, dealers and agents against civil liabilities, including liabilities under the Securities Act, or to contribute to payments they may be required to make in respect thereof.

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If so indicated in the applicable prospectus supplement, we will authorize underwriters or other persons acting as our agents to solicit offers by certain institutions to purchase securities from us pursuant to delayed delivery contracts providing for payment and delivery on the date stated in the prospectus supplement. Each contract will be for an amount not less than, and the aggregate amount of securities sold pursuant to such contracts shall not be less nor more than, the respective amounts stated in the prospectus supplement. Institutions with whom the contracts, when authorized, may be made include commercial and savings banks, insurance companies, pension funds, investment companies, educational and charitable institutions and other institutions, but shall in all cases be subject to our approval. Delayed delivery contracts will not be subject to any conditions except that:

- the purchase by an institution of the securities covered under that contract shall not at the time of delivery be prohibited under the laws of the jurisdiction to which that institution is subject; and
- if the securities are also being sold to underwriters acting as principals for their own account, the underwriters shall have purchased such securities not sold for delayed delivery. The underwriters and other persons acting as our agents will not have any responsibility in respect of the validity or performance of delayed delivery contracts.

Shares of our common stock sold pursuant to the registration statement of which this prospectus is a part will be authorized for quotation and trading on the NYSE Alternext or any securities market or other securities exchange of the securities covered by the prospectus supplement. The applicable prospectus supplement will contain information, where applicable, as to any other listing, if any, on the NYSE Alternext or any securities market or other securities exchange of the securities covered by the prospectus supplement. We can make no assurance as to the liquidity of or the existence of trading markets for any of the securities.

In order to facilitate the offering of the securities, certain persons participating in the offering may engage in transactions that stabilize, maintain or otherwise affect the price of the securities. This may include over-allotments or short sales of the securities, which involve the sale by persons participating in the offering of more securities than we sold to them. In these circumstances, these persons would cover such over-allotments or short positions by making purchases in the open market or by exercising their over-allotment option. In addition, these persons may stabilize or maintain the price of the securities by bidding for or purchasing the applicable security in the open market or by imposing penalty bids, whereby selling concessions allowed to dealers participating in the offering may be reclaimed if the securities sold by them are repurchased in connection with stabilization transactions. The effect of these transactions may be to stabilize or maintain the market price of the securities at a level above that which might otherwise prevail in the open market. These transactions may be discontinued at any time.

The underwriters, dealers and agents may engage in other transactions with us, or perform other services for us, in the ordinary course of their business.

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DESCRIPTION OF COMMON STOCK AND PREFERRED STOCK

The following description of our common stock and preferred stock, together with any additional information we include in any applicable prospectus supplements, summarizes the material terms and provisions of our common stock and the preferred stock that we may offer under this prospectus. For the complete terms of our common stock and preferred stock, please refer to our certificate of incorporation, as amended, and amended and restated bylaws, which are exhibits to the registration statement that includes this prospectus. The terms of our common stock and preferred stock may also be affected by Delaware law.

Authorized Capital Stock

Under our certificate of incorporation, as amended, our authorized capital stock consists of 100,000,000 shares of common stock, \$0.001 par value per share, and 6,000,000 shares of preferred stock, \$0.001 par value per share, 5,000,000 of which are designated as Series A preferred stock. As of December 1, 2009, we had 32,102,435 shares of common stock outstanding and 5,000,000 shares of Series A preferred stock outstanding. We will describe the specific terms of any common stock or preferred stock we may offer in more detail in a prospectus supplement relating to the offering of shares of common stock or preferred stock. If we so indicate in a prospectus supplement, the terms of any common stock or preferred stock offered under that prospectus supplement may differ from the terms described below.

Common Stock

Holders of common stock are entitled to one vote for each share held of record on all matters submitted to a vote of the stockholders, and do not have cumulative voting rights. Subject to preferences that may be applicable to any outstanding shares of preferred stock, holders of common stock are entitled to receive ratably such dividends, if any, as may be declared from time to time by our board of directors out of funds legally available for dividend payments. All shares of common stock outstanding as of the date of this prospectus and, upon issuance and sale, all shares of common stock that we may offer pursuant to this prospectus, will be fully paid and nonassessable. The holders of common stock have no preferences or rights of conversion, exchange, pre-emption or other subscription rights. There are no redemption or sinking fund provisions applicable to the common stock. In the event of any liquidation, dissolution or winding-up of our affairs, holders of common stock will be entitled to share ratably in our assets that are remaining after payment or provision for payment of all of our debts and obligations and after liquidation payments to holders of outstanding shares of preferred stock, if any.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is Computershare Trust Company, N.A.

NYSE Alternext

Our common stock is listed on the NYSE Alternext under the symbol "ILI." On January 5, 2010, the last reported sale price of our common stock was \$0.81 per share.

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Preferred Stock

Series A Preferred Stock

The Series A preferred stock accrues dividends at the rate of 8% of the original purchase price per year, payable only when, as and if declared by the Board of Directors and are non-cumulative. To date, no dividends have been declared on these shares. If we declare a distribution, with certain exceptions, payable in securities of other persons, evidences of indebtedness issued by us or other persons, assets (excluding cash dividends) or options or rights to purchase any such securities or evidences of indebtedness, then, in each such case the holders of the Series A preferred stock shall be entitled to a proportionate share of any such distribution as though the holders of the Series A preferred stock were the holders of the number of shares of our common stock into which their respective shares of Series A preferred stock are convertible as of the record date fixed for the determination of the holders of our common stock entitled to receive such distribution.

In the event of any liquidation, dissolution or winding up of the company, whether voluntary or involuntary, the holders of the Series A preferred stock shall be entitled to receive, prior and in preference to any distribution of any of our assets or surplus funds to the holders of our common stock by reason of their ownership thereof, the amount of two times the then-effective purchase price per share, as adjusted for any stock dividends, combinations or splits with respect to such shares, plus all declared but unpaid dividends on such share for each share of Series A preferred stock then held by them. The liquidation preference at September 30, 2009 was \$18,000,000. After receiving this amount, the holders of the Series A preferred stock shall participate on an as-converted basis with the holders of common stock in any of the remaining assets.

Each share of Series A preferred stock is convertible at any time at the option of the holder into a number of shares of our common stock determined by dividing the then-effective purchase price (\$1.80, and subject to further adjustment) by the conversion price in effect on the date the certificate is surrendered for conversion. As of September 30, 2009, the Series A preferred stock was convertible into 28,160,200 shares of common stock reflecting a current conversion price of \$0.3196 per share.

Each holder of Series A preferred stock is entitled to vote its shares of Series A preferred stock on an as-converted basis with the holders of common stock as a single class on all matters submitted to a vote of the stockholders, except as otherwise required by applicable law.

Undesignated Preferred Stock

Under the terms of our certificate of incorporation, as amended, our board of directors is authorized to issue up to 1,000,000 shares of preferred stock in one or more series without stockholder approval. Our board of directors has the discretion to determine the rights, preferences, privileges and restrictions, including voting rights, dividend rights, conversion rights, redemption privileges and liquidation preferences, of each series of preferred stock. Authorizing our board of directors to issue preferred stock and determine its rights and preferences has the effect of eliminating delays associated with a stockholder vote on specific issuances.

If we offer a specific series of preferred stock under this prospectus, we will describe the terms of the preferred stock in the prospectus supplement for such offering and will file a copy of the certificate establishing the terms of the preferred stock with the SEC. To the extent required, this description will include:

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the title and stated value;

- the number of shares offered, the liquidation preference per share and the purchase price;

- the dividend rate(s), period(s) and/or payment date(s), or method(s) of calculation for such dividends;

- whether dividends will be cumulative or non-cumulative and, if cumulative, the date from which dividends will accumulate;

- the procedures for any auction and remarketing, if any;

- the provisions for a sinking fund, if any;

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- the provisions for redemption, if applicable;
- any listing of the preferred stock on any securities exchange or market;
- whether the preferred stock will be convertible into our common stock, and, if applicable, the conversion price (or how it will be calculated) and conversion period;
- whether the preferred stock will be exchangeable into debt securities, and, if applicable, the exchange price (or how it will be calculated) and exchange period;
- voting rights, if any, of the preferred stock;
- a discussion of any material and/or special U.S. federal income tax considerations applicable to the preferred stock;
- the relative ranking and preferences of the preferred stock as to dividend rights and rights upon liquidation, dissolution or winding up of the affairs of Interleukin Genetics; and
- any material limitations on issuance of any class or series of preferred stock ranking senior to or on a parity with the series of preferred stock as to dividend rights and rights upon liquidation, dissolution or winding up of Interleukin Genetics.

Anti-Takeover Provisions under Delaware law and our Delaware Certificate of Incorporation and Bylaws

Our certificate of incorporation, as amended, amended and restated bylaws and provisions of Delaware law contain provisions that are intended to enhance the likelihood of continuity and stability in the composition of the board of directors and which may have the effect of delaying, deferring or preventing a future takeover or change in control of our company unless such takeover or change in control is approved by our board of directors.

These provisions, summarized below, are expected to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed to encourage persons seeking to acquire control of us to first negotiate with our board of directors. We believe that the benefits of increased protection of our potential ability to negotiate with the proponent of an unfriendly or unsolicited proposal to acquire or restructure us outweigh the disadvantages of discouraging these proposals because negotiation of these proposals could result in an improvement of their terms.

Delaware Statutory Business Combinations Provision

We are subject to the anti-takeover provisions of Section 203 of the Delaware General Corporation Law. In general, Section 203 prohibits a publicly held Delaware corporation from engaging in a "business combination" with an "interested stockholder" for a period of three years after the date of the transaction in which the person became an

interested stockholder, unless the business combination is, or the transaction in which the person became an interested stockholder was, approved in a prescribed manner or another prescribed exception applies. For purposes of Section 203, a "business combination" is defined broadly to include a merger, asset sale or other transaction resulting in a financial benefit to the interested stockholder, and, subject to certain exceptions, an "interested stockholder" is a person who, together with his or her affiliates and associates, owns (or within three years prior, did own) 15% or more of the corporation's voting stock. The statute could prohibit or delay mergers or other takeover or change in control attempts with respect to us and, accordingly, may discourage attempts to acquire us.

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Classified Board of Directors; Removal of Directors for Cause

Our certificate of incorporation and amended and restated bylaws provide for our board of directors to be divided into three classes, as nearly equal in number as possible, serving staggered terms. Approximately one-third of our board will be elected each year. At each annual meeting of stockholders, directors elected to succeed those directors whose terms expire will be elected for a three-year term of office. All directors elected to our classified board of directors will serve until the election and qualification of their respective successors or their earlier resignation or removal. The board of directors is authorized to create new directorships and to fill such positions so created and is permitted to specify the class to which any such new position is assigned. The person filling such position would serve for the term applicable to that class. The board of directors (or its remaining members, even if less than a quorum) is also empowered to fill vacancies on the board of directors occurring for any reason for the remainder of the term of the class of directors in which the vacancy occurred. Members of the board of directors may only be removed for cause and only by the affirmative vote of a majority of our outstanding voting stock. These provisions are likely to increase the time required for stockholders to change the composition of the board of directors. For example, in general, at least two annual meetings will be necessary for stockholders to effect a change in a majority of the members of the board of directors. The provision for a classified board could prevent a party who acquires control of a majority of our outstanding common stock from obtaining control of our board of directors until our second annual stockholders meeting following the date the acquirer obtains the controlling stock interest. The classified board provision could have the effect of discouraging a potential acquirer from making a tender offer or otherwise attempting to obtain control of us and could increase the likelihood that incumbent directors will retain their positions.

Advance Notice Provisions for Stockholder Proposals and Stockholder Nominations of Directors

Our amended and restated bylaws provide that, for nominations to the board of directors or for other business to be properly brought by a stockholder before a meeting of stockholders, the stockholder must first have given timely notice of the proposal in writing to our Secretary. For an annual meeting, a stockholder's notice generally must be delivered not less than 60 days nor more than 90 days prior to the anniversary of the previous year's annual meeting. Detailed requirements as to the form of the notice and information required in the notice are specified in the amended and restated bylaws. If it is determined that business was not properly brought before a meeting in accordance with our restated bylaws, such business will not be conducted at the meeting.

Special Meetings of Stockholders

Special meetings of the stockholders may be called only by the Chairman of the Board, the Chief Executive Officer or our board of directors pursuant to a resolution adopted by a majority of the directors then in office.

No Stockholder Action by Written Consent

Our certificate of incorporation, as amended, does not permit our stockholders to act by written consent. As a result, any action to be effected by our stockholders must be effected at a duly called annual or special meeting of the stockholders.

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Super-Majority Stockholder Vote Required for Certain Actions.

The Delaware General Corporation Law provides generally that the affirmative vote of a majority of the shares entitled to vote on any matter is required to amend a corporation's certificate of incorporation or bylaws, unless the corporation's certificate of incorporation or bylaws, as the case may be, requires a greater percentage. Our certificate of incorporation, as amended, requires the affirmative vote of the holders of at least 66 2 / 3 % of our outstanding voting stock to amend or repeal certain provisions of our restated certificate of incorporation. This 80% stockholder vote would be in addition to any separate class vote that might be required pursuant to the terms of any preferred stock that might then be outstanding. In addition, our amended and restated bylaws may only be amended by (1) the affirmative vote of the holders of at least 66 2 / 3 % of our outstanding voting stock or (2) the affirmative vote of not less than two-thirds of the directors then in office.

Effects of Authorized but Unissued Stock

We have shares of common stock and preferred stock available for future issuance without stockholder approval, subject to any limitations imposed by the listing standards of the NYSE Alternext or any securities market or other securities exchange our securities may be listed or traded on. We may utilize these additional shares for a variety of corporate purposes including for future public offerings to raise additional capital or facilitate corporate acquisitions or for payment as a dividend on our capital stock. The existence of unissued and unreserved common stock and preferred stock may enable our board of directors to issue shares to persons friendly to current management or to issue preferred stock with terms that could have the effect of making it more difficult for a third party to acquire, or could discourage a third party from seeking to acquire, a controlling interest in our company by means of a merger, tender offer, proxy contest or otherwise. In addition, if we issue preferred stock, the issuance could adversely affect the voting power of holders of common stock and the likelihood that such holders will receive dividend payments and payments upon liquidation.

Limitation of Liability and Indemnification of Officers and Directors

Our certificate of incorporation, as amended, and our amended and restated bylaws limit the liability of our officers and directors to the fullest extent permitted by the Delaware General Corporation Law and provide that we will indemnify them to the fullest extent permitted by such law. We have also entered into indemnification agreements with our current and former directors and certain of our officers and key employees and expect to enter into a similar agreement with any new directors, officers or key employees.

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DESCRIPTION OF DEBT SECURITIES

The following description, together with the additional information we include in any applicable prospectus supplements, summarizes the material terms and provisions of the debt securities that we may offer under this prospectus. While the terms we have summarized below will apply generally to any future debt securities we may offer pursuant to this prospectus, we will describe the particular terms of any debt securities that we may offer in more detail in the applicable prospectus supplement. If we indicate in a prospectus supplement, the terms of any debt securities we offer under that prospectus supplement may differ from the terms we describe below.

We may sell from time to time, in one or more offerings under this prospectus, debt securities, which may be senior or subordinated. We will issue any such senior debt securities under a senior indenture that we will enter into with a trustee to be named in the senior indenture. We will issue any such subordinated debt securities under a subordinated indenture, which we will enter into with a trustee to be named in the subordinated indenture. We have filed forms of these documents as exhibits to the registration statement of which this prospectus is a part. We use the term "indentures" to refer to both the senior indenture and the subordinated indenture. The indentures will be qualified under the Trust Indenture Act of 1939, as in effect on the date of the indenture. We use the term "debenture trustee" to refer to either the trustee or under the senior indenture or the trustee under the subordinated indenture, as applicable.

The following summaries of material provisions of the senior debt securities, the subordinated debt securities and the indentures are subject to, and qualified in their entirety by reference to, all the provisions of the indenture applicable to a particular series of debt securities.

General

Each indenture provides that debt securities may be issued from time to time in one or more series and may be denominated and payable in foreign currencies or units based on or relating to foreign currencies, including European Currency Units. Neither indenture limits the amount of debt securities that may be issued thereunder, and each indenture provides that the specific terms of any series of debt securities shall be set forth in, or determined pursuant to, an authorizing resolution and/or a supplemental indenture, if any, relating to such series.

We will describe in each prospectus supplement the following terms relating to a series of debt securities:

- the title or designation;
- the aggregate principal amount and any limit on the amount that may be issued;
- the currency or units based on or relating to currencies in which debt securities of such series are denominated and the currency or units in which principal or interest or both will or may be payable;
- whether we will issue the series of debt securities in global form, the terms of any global securities and who the depositary will be;
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the maturity date and the date or dates on which principal will be payable;

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the interest rate, which may be fixed or variable, or the method for determining the rate and the date interest will begin to accrue, the date or dates interest will be payable and the record dates for interest payment dates or the method for determining such dates;

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whether or not the debt securities will be secured or unsecured, and the terms of any secured debt;

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- the terms of the subordination of any series of subordinated debt;
- the place or places where payments will be payable;
- our right, if any, to defer payment of interest and the maximum length of any such deferral period;
- the date, if any, after which, and the price at which, we may, at our option, redeem the series of debt securities pursuant to any optional redemption provisions;
- the date, if any, on which, and the price at which we are obligated, pursuant to any mandatory sinking fund provisions or otherwise, to redeem, or at the holder's option to purchase, the series of debt securities;
- whether the indenture will restrict our ability to pay dividends, or will require us to maintain any asset ratios or reserves;
- whether we will be restricted from incurring any additional indebtedness;
- a discussion on any material or special United States federal income tax considerations applicable to a series of debt securities;
- the denominations in which we will issue the series of debt securities, if other than denominations of \$1,000 and any integral multiple thereof; and
- any other specific terms, preferences, rights or limitations of, or restrictions on, the debt securities.

We may issue debt securities that provide for an amount less than their stated principal amount to be due and payable upon declaration of acceleration of their maturity pursuant to the terms of the indenture. We will provide you with information on the federal income tax considerations and other special considerations applicable to any of these debt securities in the applicable prospectus supplement.

Conversion or Exchange Rights

We will set forth in the prospectus supplement the terms, if any, on which a series of debt securities may be convertible into or exchangeable for our common stock or our other securities. We will include provisions as to whether conversion or exchange is mandatory, at the option of the holder or at our option. We may include provisions pursuant to which the number of shares of our common stock or our other securities that the holders of the series of debt securities receive would be subject to adjustment.

Consolidation, Merger or Sale; No Protection in Event of a Change of Control or Highly Leveraged Transaction

The indentures do not contain any covenant that restricts our ability to merge or consolidate, or sell, convey, transfer or otherwise dispose of all or substantially all of our assets. However, any successor to or acquirer of such assets must assume all of our obligations under the indentures or the debt securities, as appropriate.

Unless we state otherwise in the applicable prospectus supplement, the debt securities will not contain any provisions that may afford holders of the debt securities protection in the event we have a change of control or in the event of a highly leveraged transaction (whether or not such transaction results in a change of control), which could adversely affect holders of debt securities.

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Events of Default Under the Indenture

The following are events of default under the indentures with respect to any series of debt securities that we may issue:

- if we fail to pay interest when due and our failure continues for 90 days and the time for payment has not been extended or deferred;
- if we fail to pay the principal, or premium, if any, when due and the time for payment has not been extended or delayed;
- if we fail to observe or perform any other covenant relating to such series contained in the debt securities of such series or the applicable indentures, other than a covenant specifically relating to and for the benefit of holders of another series of debt securities, and our failure continues for 90 days after we receive written notice from the debenture trustee or holders of not less than a majority in aggregate principal amount of the outstanding debt securities of the applicable series; and
- if specified events of bankruptcy, insolvency or reorganization occur as to us.

No event of default with respect to a particular series of debt securities (except as to certain events of bankruptcy, insolvency or reorganization) necessarily constitutes an event of default with respect to any other series of debt securities. The occurrence of an event of default may constitute an event of default under any bank credit agreements we may have in existence from time to time. In addition, the occurrence of certain events of default or an acceleration under the indenture may constitute an event of default under certain of our other indebtedness outstanding from time to time.

If an event of default with respect to debt securities of any series at the time outstanding occurs and is continuing, then the trustee or the holders of not less than a majority in principal amount of the outstanding debt securities of that series may, by a notice in writing to us (and to the debenture trustee if given by the holders), declare to be due and payable immediately the principal (or, if the debt securities of that series are discount securities, that portion of the principal amount as may be specified in the terms of that series) of and premium and accrued and unpaid interest, if any, on all debt securities of that series. Before a judgment or decree for payment of the money due has been obtained with respect to debt securities of any series, the holders of a majority in principal amount of the outstanding debt securities of that series (or, at a meeting of holders of such series at which a quorum is present, the holders of a majority in principal amount of the debt securities of such series represented at such meeting) may rescind and annul the acceleration if all events of default, other than the non-payment of accelerated principal, premium, if any, and interest, if any, with respect to debt securities of that series, have been cured or waived as provided in the applicable indenture (including payments or deposits in respect of principal, premium or interest that had become due other than as a result of such acceleration). We refer you to the prospectus supplement relating to any series of debt securities that are discount securities for the particular provisions relating to acceleration of a portion of the principal amount of such discount securities upon the occurrence of an event of default.

Subject to the terms of the indentures, if an event of default under an indenture shall occur and be continuing, the debenture trustee will be under no obligation to exercise any of its rights or powers under such indenture at the request or direction of any of the holders of the applicable series of debt securities, unless such holders have offered the debenture trustee reasonable indemnity. The holders of a majority in principal amount of the outstanding debt securities of any series will have the right to direct the time, method and place of conducting any proceeding for any remedy available to the debenture trustee, or exercising any trust or power conferred on the debenture trustee, with respect to the debt securities of that series, provided that:

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- the direction so given by the holder is not in conflict with any law or the applicable indenture; and
- subject to its duties under the Trust Indenture Act, the debenture trustee need not take any action that might involve it in personal liability or might be unduly prejudicial to the holders not involved in the proceeding.

A holder of the debt securities of any series will only have the right to institute a proceeding under the indentures or to appoint a receiver or trustee, or to seek other remedies if:

- the holder previously has given written notice to the debenture trustee of a continuing event of default with respect to that series;
- the holders of at least a majority in aggregate principal amount of the outstanding debt securities of that series have made written request, and such holders have offered reasonable indemnity to the debenture trustee to institute the proceeding as trustee; and
- the debenture trustee does not institute the proceeding, and does not receive from the holders of a majority in aggregate principal amount of the outstanding debt securities of that series (or at a meeting of holders of such series at which a quorum is present, the holders of a majority in principal amount of the debt securities of such series represented at such meeting) other conflicting directions within 60 days after the notice, request and offer.

These limitations do not apply to a suit instituted by a holder of debt securities if we default in the payment of the principal, premium, if any, or interest on, the debt securities.

We will periodically file statements with the applicable debenture trustee regarding our compliance with specified covenants in the applicable indenture.

Modification of Indenture; Waiver

The debenture trustee and we may change the applicable indenture without the consent of any holders with respect to specific matters, including:

- to fix any ambiguity, defect or inconsistency in the indenture; and
- to change anything that does not materially adversely affect the interests of any holder of debt securities of any series issued pursuant to such indenture.

In addition, under the indentures, the rights of holders of a series of debt securities may be changed by us and the debenture trustee with the written consent of the holders of at least a majority in aggregate principal amount of the outstanding debt securities of each series (or, at a meeting of holders of such series at which a quorum is present, the holders of a majority in principal amount of the debt securities of such series represented at such meeting) that is

affected. However, the debenture trustee and we may make the following changes only with the consent of each holder of any outstanding debt securities affected:

- extending the fixed maturity of the series of debt securities;
- reducing the principal amount, reducing the rate of or extending the time of payment of interest, or any premium payable upon the redemption of any debt securities;
- reducing the principal amount of discount securities payable upon acceleration of maturity;
- making the principal of or premium or interest on any debt security payable in currency other than that stated in the debt security; or

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- reducing the percentage of debt securities, the holders of which are required to consent to any amendment or waiver.

Except for certain specified provisions, the holders of at least a majority in principal amount of the outstanding debt securities of any series (or, at a meeting of holders of such series at which a quorum is present, the holders of a majority in principal amount of the debt securities of such series represented at such meeting) may on behalf of the holders of all debt securities of that series waive our compliance with provisions of the indenture. The holders of a majority in principal amount of the outstanding debt securities of any series may on behalf of the holders of all the debt securities of such series waive any past default under the indenture with respect to that series and its consequences, except a default in the payment of the principal of, premium or any interest on any debt security of that series or in respect of a covenant or provision, which cannot be modified or amended without the consent of the holder of each outstanding debt security of the series affected; provided, however, that the holders of a majority in principal amount of the outstanding debt securities of any series may rescind an acceleration and its consequences, including any related payment default that resulted from the acceleration.

Discharge

Each indenture provides that we can elect to be discharged from our obligations with respect to one or more series of debt securities, except for obligations to:

- register the transfer or exchange of debt securities of the series;

- replace stolen, lost or mutilated debt securities of the series;

- maintain paying agencies;

- hold monies for payment in trust;

- compensate and indemnify the trustee; and

- appoint any successor trustee.

In order to exercise our rights to be discharged with respect to a series, we must deposit with the trustee money or government obligations sufficient to pay all the principal of, the premium, if any, and interest on, the debt securities of the series on the dates payments are due.

Form, Exchange, and Transfer

We will issue the debt securities of each series only in fully registered form without coupons and, unless we otherwise specify in the applicable prospectus supplement, in denominations of \$1,000 and any integral multiple thereof. The indentures provide that we may issue debt securities of a series in temporary or permanent global form and as

book-entry securities that will be deposited with, or on behalf of, The Depository Trust Company or another depository named by us and identified in a prospectus supplement with respect to that series.

At the option of the holder, subject to the terms of the indentures and the limitations applicable to global securities described in the applicable prospectus supplement, the holder of the debt securities of any series can exchange the debt securities for other debt securities of the same series, in any authorized denomination and of like tenor and aggregate principal amount.

Subject to the terms of the indentures and the limitations applicable to global securities set forth in the applicable prospectus supplement, holders of the debt securities may present the debt securities for exchange or for registration of transfer, duly endorsed or with the form of transfer endorsed thereon duly executed if so required by us or the security registrar, at the office of the security registrar or at the office of any transfer agent designated by us for this purpose. Unless otherwise provided in the debt securities that the holder presents for transfer or exchange or in the applicable indenture, we will make no service charge for any registration of transfer or exchange, but we may require payment of any taxes or other governmental charges.

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We will name in the applicable prospectus supplement the security registrar, and any transfer agent in addition to the security registrar, that we initially designate for any debt securities. We may at any time designate additional transfer agents or rescind the designation of any transfer agent or approve a change in the office through which any transfer agent acts, except that we will be required to maintain a transfer agent in each place of payment for the debt securities of each series.

If we elect to redeem the debt securities of any series, we will not be required to:

- issue, register the transfer of, or exchange any debt securities of that series during a period beginning at the opening of business 15 days before the day of mailing of a notice of redemption of any debt securities that may be selected for redemption and ending at the close of business on the day of the mailing; or
- register the transfer of or exchange any debt securities so selected for redemption, in whole or in part, except the unredeemed portion of any debt securities we are redeeming in part.

Information Concerning the Debenture Trustee

The debenture trustee, other than during the occurrence and continuance of an event of default under the applicable indenture, undertakes to perform only those duties as are specifically set forth in the applicable indenture. Upon an event of default under an indenture, the debenture trustee under such indenture must use the same degree of care as a prudent person would exercise or use in the conduct of his or her own affairs. Subject to this provision, the debenture trustee is under no obligation to exercise any of the powers given it by the indentures at the request of any holder of debt securities unless it is offered reasonable security and indemnity against the costs, expenses and liabilities that it might incur.

Payment and Paying Agents

Unless we otherwise indicate in the applicable prospectus supplement, we will make payment of the interest on any debt securities on any interest payment date to the person in whose name the debt securities, or one or more predecessor securities, are registered at the close of business on the regular record date for the interest.

We will pay principal of and any premium and interest on the debt securities of a particular series at the office of the paying agents designated by us, except that unless we otherwise indicate in the applicable prospectus supplement, we will make interest payments by check which we will mail to the holder. Unless we otherwise indicate in a prospectus supplement, we will designate the corporate trust office of the debenture trustee in the City of New York as our sole paying agent for payments with respect to debt securities of each series. We will name in the applicable prospectus supplement any other paying agents that we initially designate for the debt securities of a particular series. We will maintain a paying agent in each place of payment for the debt securities of a particular series.

All money we pay to a paying agent or the debenture trustee for the payment of the principal of or any premium or interest on any debt securities which remains unclaimed at the end of two years after such principal, premium or interest has become due and payable will be repaid to us, and the holder of the security thereafter may look only to us for payment thereof.

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Governing Law

The indentures and the debt securities will be governed by and construed in accordance with the laws of the State of New York, except to the extent that the Trust Indenture Act is applicable.

Subordination of Subordinated Debt Securities

The obligations of the Company pursuant to any subordinated debt securities will be unsecured and will be subordinate and junior in priority of payment to certain of our other indebtedness to the extent described in a prospectus supplement. The subordinated indenture does not limit the amount of senior indebtedness we may incur. It also does not limit us from issuing any other secured or unsecured debt.

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DESCRIPTION OF WARRANTS

General

We may issue warrants to purchase shares of our common stock, preferred stock and/or debt securities in one or more series together with other securities or separately, as described in the applicable prospectus supplement. Below is a description of certain general terms and provisions of the warrants that we may offer. Particular terms of the warrants will be described in the warrant agreements and the prospectus supplement relating to the warrants.

The applicable prospectus supplement will contain, where applicable, the following terms of and other information relating to the warrants:

- the specific designation and aggregate number of, and the price at which we will issue, the warrants;
- the currency or currency units in which the offering price, if any, and the exercise price are payable;
- the designation, amount and terms of the securities purchasable upon exercise of the warrants;
- if applicable, the exercise price for shares of our common stock and the number of shares of common stock to be received upon exercise of the warrants;
- if applicable, the exercise price for shares of our preferred stock, the number of shares of preferred stock to be received upon exercise, and a description of that series of our preferred stock;
- if applicable, the exercise price for our debt securities, the amount of debt securities to be received upon exercise, and a description of that series of debt securities;
- the date on which the right to exercise the warrants will begin and the date on which that right will expire or, if you may not continuously exercise the warrants throughout that period, the specific date or dates on which you may exercise the warrants;
- whether the warrants will be issued in fully registered form or bearer form, in definitive or global form or in any combination of these forms, although, in any case, the form of a warrant included in a unit will correspond to the form of the unit and of any security included in that unit;
- any applicable material U.S. federal income tax consequences;
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the identity of the warrant agent for the warrants and of any other depositaries, execution or paying agents, transfer agents, registrars or other agents;

- the proposed listing, if any, of the warrants or any securities purchasable upon exercise of the warrants on any securities exchange;
- if applicable, the date from and after which the warrants and the common stock, preferred stock and/or debt securities will be separately transferable;
- if applicable, the minimum or maximum amount of the warrants that may be exercised at any one time;
- information with respect to book-entry procedures, if any;
- the anti-dilution provisions of the warrants, if any;
- any redemption or call provisions;
- whether the warrants are to be sold separately or with other securities as parts of units; and
- any additional terms of the warrants, including terms, procedures and limitations relating to the exchange and exercise of the warrants.

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DESCRIPTION OF RIGHTS

General

We may issue rights to our stockholders to purchase shares of our common stock, preferred stock or the other securities described in this prospectus. We may offer rights separately or together with one or more additional rights, debt securities, preferred stock, common stock, warrants or purchase contracts, or any combination of those securities in the form of units, as described in the applicable prospectus supplement. Each series of rights will be issued under a separate rights agreement to be entered into between us and a bank or trust company, as rights agent. The rights agent will act solely as our agent in connection with the certificates relating to the rights of the series of certificates and will not assume any obligation or relationship of agency or trust for or with any holders of rights certificates or beneficial owners of rights. The following description sets forth certain general terms and provisions of the rights to which any prospectus supplement may relate. The particular terms of the rights to which any prospectus supplement may relate and the extent, if any, to which the general provisions may apply to the rights so offered will be described in the applicable prospectus supplement. To the extent that any particular terms of the rights, rights agreement or rights certificates described in a prospectus supplement differ from any of the terms described below, then the terms described below will be deemed to have been superseded by that prospectus supplement. We encourage you to read the applicable rights agreement and rights certificate for additional information before you decide whether to purchase any of our rights.

We will provide in a prospectus supplement the following terms of the rights being issued:

- the date of determining the stockholders entitled to the rights distribution;
- the aggregate number of shares of common stock, preferred stock or other securities purchasable upon exercise of the rights;
- the exercise price;
- the aggregate number of rights issued;
- the date, if any, on and after which the rights will be separately transferable;
- the date on which the right to exercise the rights will commence, and the date on which the right to exercise the rights will expire;
- the method by which holders of rights will be entitled to exercise;
- the conditions to the completion of the offering, if any;

- the withdrawal, termination and cancellation rights, if any;
- whether the rights are transferrable;
- whether there are any backstop or standby purchaser or purchasers and the terms of their commitment, if any;
- whether stockholders are entitled to oversubscription rights, if any;
- any applicable federal income tax considerations; and
- any other terms of the rights, including terms, procedures and limitations relating to the distribution, exchange and exercise of the rights, as applicable.

Each right will entitle the holder of rights to purchase for cash the principal amount of shares of common stock, preferred stock or other securities at the exercise price provided in the applicable prospectus supplement. Rights may be exercised at any time up to the close of business on the expiration date for the rights provided in the applicable prospectus supplement.

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Holders may exercise rights as described in the applicable prospectus supplement. Upon receipt of payment and the rights certificate properly completed and duly executed at the corporate trust office of the rights agent or any other office indicated in the prospectus supplement, we will, as soon as practicable, forward the shares of common stock, preferred stock or other securities, as applicable, purchasable upon exercise of the rights. If less than all of the rights issued in any rights offering are exercised, we may offer any unsubscribed securities directly to persons other than stockholders, to or through agents, underwriters or dealers or through a combination of such methods, including pursuant to standby arrangements, as described in the applicable prospectus supplement.

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DESCRIPTION OF PURCHASE CONTRACTS

We may issue purchase contracts, including contracts obligating holders to purchase from us, and for us to sell to holders, a specific or variable number of our debt securities, shares of common stock, preferred stock, warrants or rights, or securities of an entity unaffiliated with us, or any combination of the above, at a future date or dates. Alternatively, the purchase contracts may obligate us to purchase from holders, and obligate holders to sell to us, a specific or variable number of our debt securities, shares of common stock, preferred stock, warrants, rights or other property, or any combination of the above. The price of the securities or other property subject to the purchase contracts may be fixed at the time the purchase contracts are issued or may be determined by reference to a specific formula described in the purchase contracts. We may issue purchase contracts separately or as a part of units each consisting of a purchase contract and one or more of our other securities described in this prospectus or securities of third parties, including U.S. Treasury securities, securing the holder's obligations under the purchase contract. The purchase contracts may require us to make periodic payments to holders or vice versa and the payments may be unsecured or pre-funded on some basis. The purchase contracts may require holders to secure the holder's obligations in a manner specified in the applicable prospectus supplement.

The applicable prospectus supplement will describe the terms of any purchase contracts in respect of which this prospectus is being delivered, including, to the extent applicable, the following:

- whether the purchase contracts obligate the holder or us to purchase or sell, or both purchase and sell, the securities subject to purchase under the purchase contract, and the nature and amount of each of those securities, or the method of determining those amounts;
- whether the purchase contracts are to be prepaid;
- whether the purchase contracts are to be settled by delivery, or by reference or linkage to the value, performance or level of the securities subject to purchase under the purchase contract;
- any acceleration, cancellation, termination or other provisions relating to the settlement of the purchase contracts;
- any applicable federal income tax considerations; and
- whether the purchase contracts will be issued in fully registered or global form.

The preceding description sets forth certain general terms and provisions of the purchase contracts to which any prospectus supplement may relate. The particular terms of the purchase contracts to which any prospectus supplement may relate and the extent, if any, to which the general provisions may apply to the purchase contracts so offered will be described in the applicable prospectus supplement. To the extent that any particular terms of the purchase contracts described in a prospectus supplement differ from any of the terms described above, then the terms described above will be deemed to have been superseded by that prospectus supplement. We encourage you to read the applicable purchase contract for additional information before you decide whether to purchase any of our purchase contracts.

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DESCRIPTION OF UNITS

The following description, together with the additional information that we include in any applicable prospectus supplements summarizes the material terms and provisions of the units that we may offer under this prospectus. While the terms we have summarized below will apply generally to any units that we may offer under this prospectus, we will describe the particular terms of any series of units in more detail in the applicable prospectus supplement. The terms of any units offered under a prospectus supplement may differ from the terms described below.

We will file as exhibits to the registration statement of which this prospectus is a part, or will incorporate by reference from reports that we file with the SEC, the form of unit agreement that describes the terms of the series of units we are offering, and any supplemental agreements, before the issuance of the related series of units. The following summaries of material terms and provisions of the units are subject to, and qualified in their entirety by reference to, all the provisions of the unit agreement and any supplemental agreements applicable to a particular series of units. We urge you to read the applicable prospectus supplements related to the particular series of units that we may offer under this prospectus, as well as any related free writing prospectuses and the complete unit agreement and any supplemental agreements that contain the terms of the units.

General

We may issue units consisting of common stock, preferred stock, one or more debt securities, warrants, rights or purchase contracts for the purchase of common stock, preferred stock and/or debt securities in one or more series, in any combination. Each unit will be issued so that the holder of the unit is also the holder of each security included in the unit. Thus, the holder of a unit will have the rights and obligations of a holder of each included security. The unit agreement under which a unit is issued may provide that the securities included in the unit may not be held or transferred separately, at any time or at any time before a specified date.

We will describe in the applicable prospectus supplement the terms of the series of units being offered, including:

- the designation and terms of the units and of the securities comprising the units, including whether and under what circumstances those securities may be held or transferred separately
- any provisions of the governing unit agreement that differ from those described below; and
- any provisions for the issuance, payment, settlement, transfer or exchange of the units or of the securities comprising the units.

The provisions described in this section, as well as those described under "Description of Common Stock and Preferred Stock," "Description of Debt Securities," "Description of Warrants," "Description of Rights" and "Description of Purchase Contracts" will apply to each unit, as applicable, and to any common stock, preferred stock, debt security, warrant, right or purchase contract included in each unit, as applicable.

Issuance in Series

We may issue units in such amounts and in such numerous distinct series as we determine.

Enforceability of Rights by Holders of Units

Each unit agent will act solely as our agent under the applicable unit agreement and will not assume any obligation or relationship of agency or trust with any holder of any unit. A single bank or trust company may act as unit agent for more than one series of units. A unit agent will have no duty or responsibility in case of any default by us under the applicable unit agreement or unit, including any duty or responsibility to initiate any proceedings at law or otherwise, or to make any demand upon us. Any holder of a unit may, without the consent of the related unit agent or the holder of any other unit, enforce by appropriate legal action its rights as holder under any security included in the unit.

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LEGAL MATTERS

Mintz, Levin, Cohn, Ferris, Glovsky and Popeo, P.C., Boston, Massachusetts, will pass upon the validity of the issuance of the securities offered by this prospectus.

EXPERTS

The financial statements and schedule 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.

WHERE YOU CAN FIND MORE INFORMATION

We are subject to the reporting requirements of the Securities Exchange Act of 1934, as amended, and file annual, quarterly and current reports, proxy statements and other information with the SEC. You may read and copy these reports, proxy statements and other information at the SEC's public reference facilities at 100 F Street, N.E., Room 1580, Washington, D.C. 20549. You can request copies of these documents by writing to the SEC and paying a fee for the copying cost. Please call the SEC at 1-800-SEC-0330 for more information about the operation of the public reference facilities. SEC filings are also available at the SEC's web site at <http://www.sec.gov>. Copies of information filed by us with the SEC are also available on our website at <http://www.ilgenetics.com> under the heading "Investors."

Our common stock is listed on the NYSE Alternext, and you can read and inspect our filings at the offices of the Financial Industry Regulatory Authority at 1735 K Street, Washington, D.C. 20006.

This prospectus is only part of a registration statement on Form S-3 that we have filed with the SEC under the Securities Act of 1933, as amended, and therefore omits certain information contained in the registration statement. We have also filed exhibits and schedules with the registration statement that are excluded from this prospectus, and you should refer to the applicable exhibit or schedule for a complete description of any statement referring to any contract or other document. You may inspect a copy of the registration statement, including the exhibits and schedules, without charge, at the public reference room or obtain a copy from the SEC upon payment of the fees prescribed by the SEC.

INCORPORATION OF DOCUMENTS BY REFERENCE

The SEC allows us to "incorporate by reference" information that we file with them. Incorporation by reference allows us to disclose important information to you by referring you to those other documents. The information incorporated by reference is an important part of this prospectus, and information that we file later with the SEC will automatically update and supersede this information. We filed a registration statement on Form S-3 under the Securities Act of 1933, as amended, with the SEC with respect to the securities being offered pursuant to this prospectus. This prospectus omits certain information contained in the registration statement, as permitted by the SEC. You should refer to the registration statement, including the exhibits, for further information about us and the securities being offered pursuant to this prospectus. Statements in this prospectus regarding the provisions of certain documents filed with, or incorporated by reference in, the registration statement are not necessarily complete and each statement is qualified in all respects by that reference. Copies of all or any part of the registration statement, including the documents incorporated by reference or the exhibits, may be obtained upon payment of the prescribed rates at the

offices of the SEC listed above in "Where You Can Find More Information." The documents we are incorporating by reference are (unless otherwise noted, the SEC file number for each of the documents listed below is 001-32715):

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- Our annual report on Form 10-K for the fiscal year ended December 31, 2008, filed on March 25, 2009;
- Our quarterly reports on Form 10-Q for the quarters ended March 31, 2009, June 30, 2009 and September 30, 2009, filed on May 14, 2009, August 13, 2009 and November 12, 2009, respectively;
- Our current reports on Form 8-K filed on January 15, 2009, March 13, 2009, March 31, 2009, May 15, 2009 (with respect to Item 3.01 only), June 4, 2009, July 8, 2009 and October 30, 2009;
- The portions of our Definitive Proxy Statement on Schedule 14A that are deemed "filed" with the SEC under the Securities Exchange Act of 1934, as amended, filed on April 30, 2009;
- The description of our common stock contained in Item 1 of our Registration Statement on Form 8-A dated December 27, 2005, including any amendment or report filed for the purpose of updating such description;
- all reports and other documents subsequently filed by us pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Securities Exchange Act of 1934, as amended, after the date of this prospectus and prior to the termination or completion of the offering of securities under this prospectus shall be deemed to be incorporated by reference in this prospectus and to be a part hereof from the date of filing such reports and other documents.

Any statement contained in this prospectus or in a document incorporated or deemed to be incorporated by reference into this prospectus will be deemed to be modified or superseded for purposes of this prospectus to the extent that a statement contained in this prospectus or any other subsequently filed document that is deemed to be incorporated by reference into this prospectus modifies or supersedes the statement. Any statement so modified or superseded will not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

You may request, orally or in writing, a copy of any or all of the documents incorporated herein by reference. These documents will be provided to you at no cost, by contacting: Investor Relations, Interleukin Genetics, Inc., 135 Beaver Street, Waltham, Massachusetts 02452. Our telephone number is (781) 398-0700.

You should rely only on information contained in, or incorporated by reference into, this prospectus and any prospectus supplement. We have not authorized anyone to provide you with information different from that contained in this prospectus or incorporated by reference in this prospectus. We are not making offers to sell the securities in any jurisdiction in which such an offer or solicitation is not authorized or in which the person making such offer or solicitation is not qualified to do so or to anyone to whom it is unlawful to make such offer or solicitation.

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PROSPECTUS

INTERLEUKIN GENETICS, INC.

\$75,000,000

COMMON STOCK
PREFERRED STOCK
DEBT SECURITIES
WARRANTS
RIGHTS
PURCHASE CONTRACTS
UNITS

January 5, 2010
