

PROSPECTUS SUPPLEMENT  
(To prospectus dated July 21, 2020)



CANCER GENETICS, INC.

Up to \$2,400,000 of Common Stock

Cancer Genetics, Inc. has entered into an At The Market Offering Agreement (the “Sales Agreement”) with H.C. Wainwright & Co., LLC (“Wainwright”), as sales agent, relating to the offer and sale of up to \$2,400,000 of our common stock, par value \$0.0001 per share, offered by this prospectus supplement and the accompanying prospectus.

Sales of our common stock, if any, under this prospectus supplement and the accompanying prospectus may be made in transactions that are deemed to be “at-the-market” offerings as defined in Rule 415 under the Securities Act of 1933, as amended (the “Securities Act”), including sales made directly on or through the Nasdaq Capital Market, the trading market for our common stock, or any other trading market in the United States for our common stock, sales made to or through a market maker other than on an exchange or otherwise, directly to the sales agent as principal in negotiated transactions at market prices prevailing at the time of sale or at prices related to such prevailing market prices, and/or in any other method permitted by law. If we and Wainwright agree on any method of distribution other than sales of shares of our common stock into the Nasdaq Capital Market or another existing trading market in the United States at market prices, we will file a further prospectus supplement providing all information about such offering as required by Rule 424(b) under the Securities Act. Wainwright will act as sales agent on a commercially reasonable efforts basis consistent with its normal trading and sales practices. There is no arrangement for funds to be received in any escrow, trust or similar arrangement.

We will pay Wainwright a commission equal to 3.0% of the gross sales price per share of common stock issued by us and sold through it as our sales agent under the Sales Agreement. In connection with the sale of the common stock on our behalf, Wainwright will be deemed to be an “underwriter” within the meaning of the Securities Act and the compensation of Wainwright will be deemed to be underwriting commissions or discounts.

Our common stock is listed on the Nasdaq Capital Market under the symbol “CGIX.” The last reported sale price of our common stock on the Nasdaq Capital Market on November 30, 2020 was \$2.59 per share.

As of November 30, 2020, the aggregate market value of our outstanding common stock held by non-affiliates was \$17,690,658 based on 4,085,303 shares of outstanding common stock, of which 4,011,487 shares are held by non-affiliates, and the last reported sale price of our common stock of \$4.41 per share on October 13, 2020. Pursuant to General Instruction I.B.6 of Form S-3, in no event will we sell securities in a primary offering with a value exceeding more than one-third of our public float in any 12-month period so long as our public float remains below \$75,000,000. We have sold \$3,450,000 of securities pursuant to General Instruction I.B.6 of Form S-3 during the 12 calendar month period that ends on and includes the date of this prospectus supplement (excluding this offering).

Investing in our common stock involves risks. See “Risk Factors” beginning on page S-6.

*Neither the Securities and Exchange Commission (the “SEC”), nor any state securities commission, or any other regulatory body has approved or disapproved of these securities or determined if this prospectus supplement is truthful or complete. Any representation to the contrary is a criminal offense.*

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H.C. Wainwright & Co.

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The date of this prospectus supplement is December 2, 2020.

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**ABOUT THIS PROSPECTUS SUPPLEMENT**

This prospectus supplement and the accompanying prospectus form part of a registration statement on Form S-3 (File No. 333-239497) that we filed with the SEC utilizing a “shelf” registration process. This document contains two parts. The first part consists of this prospectus supplement, which provides you with specific information about this offering. The second part, the accompanying prospectus, provides more general information, some of which may not apply to this offering. Generally, when we refer only to the “prospectus,” we are referring to both parts combined together with all documents incorporated by reference.

In this prospectus supplement, the terms “CGIX,” “CGI,” “we,” “us,” “our” and the “Company” refer to Cancer Genetics, Inc. unless otherwise stated or the context otherwise requires.

This prospectus supplement, and the information incorporated herein by reference, may add, update or change information in the accompanying prospectus and in any free writing prospectuses we may provide to you in connection with this offering. You should read both this prospectus supplement and the accompanying prospectus together with additional information described under the headings “Where You Can Find More Information” and “Incorporation of Certain Information by Reference.” If there is any inconsistency between the information in this prospectus supplement and the accompanying prospectus, you should rely on the information in this prospectus supplement.

**You may rely only the information contained in or incorporated by reference in this prospectus supplement and the accompanying prospectus. Neither we nor the sales agent has authorized anyone to provide information different from that contained in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein and therein. If anyone provides you with different or inconsistent information, you should not rely on it. The information in this prospectus supplement, the accompanying prospectus and in any free writing prospectuses we may provide to you in connection with this offering is accurate only as of their respective dates, regardless of time of delivery. Our business, financial condition, results of operations and prospects may have changed since those dates.**

We are offering to sell, and seeking offers to buy, our securities only in jurisdictions where offers and sales are permitted. The distribution of this prospectus supplement and the offering of the securities in certain jurisdictions may be restricted by law. Persons outside the United States who come into possession of this prospectus supplement must inform themselves about, and observe any restrictions relating to, the offering of the securities and the distribution of this prospectus supplement outside the United States. This prospectus supplement does not constitute, and may not be used in connection with, an offer to sell, or a solicitation of an offer to buy, any securities offered by this prospectus supplement by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

All references in this prospectus to our consolidated financial statements include, unless the context indicates otherwise, the related notes.

We further note that the representations, warranties and covenants made by us in any agreement that is filed as an exhibit to any document that is incorporated by reference herein were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreements, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

This prospectus and the information incorporated by reference herein include trademarks, service marks and trade names owned by us or other companies. All trademarks, service marks and trade names included or incorporated by reference into this prospectus are the property of their respective owners.

The industry and market data and other statistical information contained in this prospectus supplement, the accompanying prospectus and the documents we incorporate by reference are based on management’s own estimates, independent publications, government publications, reports by market research firms or other published independent sources, and, in each case, are believed by management to be reasonable estimates. Although we believe these sources are reliable, we have not independently verified the information. None of the independent industry publications used in this prospectus supplement, the accompanying prospectus or the documents we incorporate by reference were prepared on our or our affiliates’ behalf and none of the sources cited by us consented to the inclusion of any data from its reports, nor have we sought their consent.

**FORWARD-LOOKING STATEMENTS AND OTHER INFORMATION CONTAINED IN THIS PROSPECTUS SUPPLEMENT**

Certain information set forth in this prospectus supplement, set forth in the accompanying prospectus or incorporated by reference herein or therein may contain “forward-looking statements” within the meaning of Section 27A of the Securities Act and Section 21E of the Exchange Act, that are intended to be covered by the “safe harbor” created by those sections. Forward-looking statements, which are based on certain assumptions and describe our future plans, strategies and expectations, can generally be identified by the use of forward-looking terms such as “believe,” “expect,” “may,” “will,” “should,” “would,” “could,” “seek,” “intend,” “plan,” “goal,” “project,” “estimate,” “anticipate,” “strategy,” “future,” “likely” or other comparable terms and references to future periods. All statements other than statements of historical facts included in this prospectus

supplement and the documents incorporated by reference regarding our strategies, prospects, financial condition, operations, costs, plans and objectives are forward-looking statements. Examples of forward-looking statements include, among others, statements we make regarding expectations for revenues, cash flows and financial performance, the anticipated results of our development efforts and the timing for receipt of required regulatory approvals and product launches.

Forward-looking statements are neither historical facts nor assurances of future performance. Instead, they are based only on our current beliefs, expectations and assumptions regarding the future of our business, future plans and strategies, projections, anticipated events and trends, the economy and other future conditions. Because forward-looking statements relate to the future, they are subject to inherent uncertainties, risks and changes in circumstances that are difficult to predict and many of which are outside of our control. Our actual results and financial condition may differ materially from those indicated in the forward-looking statements. Therefore, you should not rely on any of these forward-looking statements. Important factors that could cause our actual results and financial condition to differ materially from those indicated in the forward-looking statements include, among others, the following:

- the expected benefits of, and potential value, including synergies, created by, the Merger (as defined below in this prospectus supplement) for the stockholders of CGI and shareholders of StemoniX, Inc.;
- likelihood of the satisfaction of certain conditions to the completion of the Merger, such as the Private Placement (as defined below in this prospectus supplement), and whether and when the Merger will be consummated;
- CGI's ability to control and correctly estimate its operating expenses and its expenses associated with the Merger;
- the Company's ability to adapt its business for future developments in light of the global outbreak of COVID-19, which continues to rapidly evolve;
- the Company's ability to achieve profitability by increasing sales of the Company's preclinical CRO services focused on oncology and immuno-oncology;
- the Company's ability to raise additional capital to meet its liquidity needs;
- the Company's ability to execute on its marketing and sales strategy for its preclinical research services and gain acceptance of its services in the market;
- the Company's ability to keep pace with rapidly advancing market and scientific developments;
- the Company's ability to satisfy U.S. (including FDA) and international regulatory requirements with respect to its services;
- the Company's ability to maintain its present customer base and obtain new customers;
- competition from preclinical CRO services companies, many of which are much larger than the Company in terms of employee base, revenues and overall number of customers and related market share;
- the Company's ability to maintain the Company's clinical and research collaborations and enter into new collaboration agreements with highly regarded organizations in the field of oncology so that, among other things, the Company has access to thought leaders in advanced preclinical and translational science;
- potential product liability or intellectual property infringement claims;
- the Company's dependency on third-party manufacturers to supply it with instruments and specialized supplies;
- the Company's ability to attract and retain a sufficient number of scientists, clinicians, sales personnel and other key personnel with extensive experience in oncology and immuno-oncology, who are in short supply;
- the Company's ability to obtain or maintain patents or other appropriate protection for the intellectual property in its proprietary tests and services;
- the Company's ability to effectively manage its international businesses in Australia and Europe, including the expansion of its customer base and volume of new contracts in these markets;
- the Company's dependency on the intellectual property licensed to the Company or possessed by third parties;
- the Company's ability to adequately support future growth; and
- other risks and uncertainties discussed in the Company's Form S-4 filed on October 16, 2020 and annual report on Form 10-K for the year ended December 31, 2019, as updated in our Form 10-Q for the quarter ended September 30, 2020 and other reports, as applicable, the Company files with the Securities and Exchange Commission, which are incorporated by reference in this prospectus supplement and the accompanying prospectus.

Any forward-looking statement made by us in this prospectus supplement is based only on information currently available to us and speaks only as of the date on which it is made. We undertake no obligation to publicly update any forward-looking statement, whether written or oral, that may be made from time to time, whether as a result of new information, future developments or otherwise. We anticipate that subsequent events and developments will cause our views to change. You should read this prospectus supplement, the accompanying prospectus and the documents referenced herein or therein and filed as exhibits to the registration statement, of which this prospectus supplement is a part, completely and with the understanding that our actual future results may be materially different from what we expect. Our forward-looking statements do not reflect the potential impact of any future acquisitions, merger, dispositions, joint ventures or investments we may undertake. We qualify all of our forward-looking statements by these cautionary statements.

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## SUMMARY

This summary highlights selected information contained elsewhere in or incorporated by reference in this prospectus supplement and the accompanying prospectus. The summary may not contain all of the information that is important to you or that you should consider before making an investment decision. You should carefully read this entire prospectus supplement and the accompanying prospectus, as well as the information to which we refer you, before deciding whether to invest in our common stock. You should pay special attention to the "Risk Factors" section of this prospectus supplement to determine whether an investment in our common stock is appropriate for you.

### Overview

Cancer Genetics, Inc. supports the efforts of the biotechnology and pharmaceutical industries to develop innovative new drug therapies. Following the Business Disposals (as defined below), the Company currently has an extensive set of anti-tumor referenced data based on predictive xenograft and syngeneic tumor models from the acquisition of *vivoPharm*, Pty Ltd. ("*vivoPharm*") in 2017, to provide Discovery Services such as contract research services, focused primarily on unique specialized studies to guide drug discovery and development programs in the oncology and immuno-oncology fields. *vivoPharm* is a contract research organization ("CRO") that specializes in planning and conducting unique, specialized studies to guide drug discovery and development programs with a concentration in oncology and immuno-oncology. These studies range from early compound selection to developing comprehensive sets of *in vitro* and *in vivo* data, as needed for FDA Investigational New Drug ("IND") applications.

The Company offers preclinical services such as predictive tumor models, human orthotopic xenografts and syngeneic immuno-oncology relevant tumor models in its Hershey, PA facility, and is a leader in the field of immuno-oncology preclinical services in the United States. This service is supplemented with GLP toxicology and extended bioanalytical services in the Company's Australian-based facilities in Clayton, Victoria, and Gilles Plains, South Australia.

Our business is based on demand for preclinical and discovery services from biotechnology and pharmaceutical companies, academia and the research community. Biotechnology and pharmaceutical companies engaged in designing and running clinical trials to determine the safety and effectiveness of treatments and therapeutics continuously benefit from our services. In particular our preclinical development of biomarker detection methods, response to immuno-oncology directed novel treatments and early prediction of clinical outcome is supported by our extended portfolio of orthotopic, xenografts and syngeneic tumor test systems as a specialized service offering in the immuno-oncology space.

*vivoPharm* has developed industry recognized capabilities in early phase development and discovery, especially in immuno-oncology models, tumor micro-environment studies, and specialized pharmacology services that support basic discovery, preclinical and phase 1 clinical trials. *vivoPharm*'s studies have been utilized to support over 250 IND submissions to date across a range of therapeutic indications, including lymphomas, leukemia, GI-cancers, liver cancer, pancreatic cancer, non-small

cell lung cancer, and other non-cancer rare diseases. *vivoPharm* is presently serving over 50 biotechnology and pharmaceutical companies across four continents in over 100 studies and trials with highly specialized development, clinical and preclinical research. Over the past 17 years, *vivoPharm* has also generated an extensive library of human xenograft and syngeneic tumor models, including subcutaneous, orthotopic and metastatic models. *vivoPharm* offers its expertise in small and bio-molecules.

The Company continues to leverage *vivoPharm*'s international presence to access global market opportunities. *vivoPharm*'s facilities in Australia specializes in safety and toxicology studies, including mammalian, genetic and *in vitro*, along with bioanalytical services including immune-analytical capabilities. The Company operates from multiple locations in Victoria and South Australia. *vivoPharm*'s U.S.-based laboratory, located at the Hershey Center for Applied Research in Hershey, Pennsylvania, primarily focuses on screening and efficacy testing for a wide range of pharmaceutical and chemical products. The Company's office in Munich, Germany hosts project management and business development personnel.

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## **Proposed Merger with StemoniX, Inc.**

### ***Merger Transaction***

On August 21, 2020, CGI entered into an Agreement and Plan of Merger and Reorganization (the "Merger Agreement") with StemoniX, Inc., a Minnesota corporation ("StemoniX"), and CGI Acquisition, Inc., a Minnesota corporation and wholly-owned subsidiary of CGI ("Merger Sub"). Upon the terms and subject to the satisfaction of the conditions described in the Merger Agreement, including approval of the transaction by CGI's stockholders and StemoniX's shareholders, Merger Sub will be merged with and into StemoniX, with StemoniX surviving the merger as a wholly-owned subsidiary of CGI (the "Merger").

The post-merger company will continue to operate CGI's *vivoPharm*, Pty. Ltd. business and will also focus on advancing StemoniX's microOrgans<sup>®</sup> platform and augmented intelligence tools for drug discovery and development. StemoniX, a private company, is a leader in developing human models for specific diseases via its microOrgan<sup>®</sup> platform, based on living micro-tissues engineered from human induced pluripotent stem cells (iPSC). CGI believes that the merger will position the post-merger company to harness the synergies between two critical modalities of drug discovery and development - advanced animal models and relevant human high-throughput organoid platforms. CGI further believes that the resulting integration of scientific and technology-based expertise, skilled management teams, and ability to offer customers an end-to-end platform will de-risk and accelerate discovery and development of preclinical and clinical pipelines for biopharma partners as well as for the proprietary pipeline of the post-merger company.

Pursuant to, and subject to the conditions of, the Merger Agreement, each share of common stock of StemoniX (other than Dissenting Shares (as defined in the Merger Agreement)), issued and outstanding immediately prior to the effective time of the Merger (the "Effective Time") shall be automatically converted into the right to receive an amount of shares of common stock, par value \$0.0001 per share, of CGI ("CGI Common Stock") equal to the Exchange Ratio (as defined in the Merger Agreement). All options to purchase shares of StemoniX Common Stock ("StemoniX Options") outstanding immediately prior to the Effective Time, whether vested or unvested, will be converted into a stock option to purchase shares of CGI Common Stock, proportionately adjusted based on the Exchange Ratio. All warrants to purchase shares of StemoniX Common Stock ("StemoniX Warrants") outstanding immediately prior to the Effective Time will be cancelled and converted into the right to receive the same consideration such warrant holder would have received had they exercised the StemoniX Warrants immediately prior to the merger, based on the Exchange Ratio, net of the exercise price.

As a result, immediately following the Effective Time, but prior to the proportionate dilution to come from the contemplated private placement that is a condition of the merger (the "Private Placement"), the former StemoniX shareholders will hold approximately 78% of the outstanding shares of CGI Common Stock (which outstanding shares, the "Deemed Outstanding Shares", in this context, includes the CGI Common Stock issuable on a net exercise basis with respect to any in-the-money CGI options, in-the-money CGI warrants, in-the-money StemoniX Options and in-the-money StemoniX Warrants but does not include any shares issued in the Private Placement) and the stockholders of CGI, including stockholders who purchase shares in this offering, will retain ownership of approximately 22% of the Deemed Outstanding Shares, with such percentages subject to certain closing adjustments based on the Net Cash (as defined in the Merger Agreement) held by each company (such adjustment, the "Net Cash Adjustment") and, proportionately for all equity holders of the post-merger company, dilution from the Private Placement. The exact number of shares of CGI Common Stock that will be issued to StemoniX shareholders will be fixed immediately prior to the Effective Time to reflect the capitalization of CGI as of immediately prior to such time as well as the Net Cash Adjustment.

Upon completion of the Merger, the board of directors of the post-merger company will be comprised of seven members, including John A. Roberts, President and Chief Executive Officer of CGI, Yung-Ping Yeh, Chief Executive Officer of StemoniX, Geoffrey Harris, current chairman of the board of CGI, Howard McLeod, a current director of CGI, John Fletcher, a current director of StemoniX, and two additional individuals to be designated by StemoniX prior to closing (subject to the reasonable consent of CGI). In addition, it is currently anticipated that the executive officers of the post-merger company will be John A. Roberts, Yung-Ping Yeh, Andrew D.C. LaFrence, currently Chief Financial Officer and Chief Operating Officer of StemoniX, and Ralf Brandt, PhD, currently President of Discovery & Early Development Services of CGI.

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In connection with and for purposes of seeking the approval from the stockholders of CGI for the issuance of shares of CGI Common Stock in the Merger, among other items, on October 16, 2020, CGI filed a registration statement on Form S-4 (File No. 333-249513) (the "Form S-4") with the U.S. Securities and Exchange Commission ("SEC") that contains a proxy statement/prospectus/information statement, which Form S-4 is incorporated by reference into this prospectus supplement in its entirety.

The closing of the Merger, which is expected in the first quarter of 2021, is subject to satisfaction or waiver of certain conditions including, among other things, (i) the required approvals by the parties' shareholders, (ii) the accuracy of the representations and warranties, subject to certain materiality qualifications, (iii) compliance by the parties with their respective covenants, (iv) the effectiveness of the Form S-4, (v) no law or order preventing the Merger and related transactions, (vi) the listing of the shares issued in the Merger on The Nasdaq Capital Market and (vii) consummation of the Private Placement by CGI in an amount to be mutually agreed upon by CGI and StemoniX, and currently anticipated to be \$10 million, but which may be more or less as agreed by the parties, and depending on market demand. CGI has no commitment with respect to the Private Placement as of the date of this prospectus supplement.

The Merger Agreement contains certain termination rights for both CGI and StemoniX. In connection with the termination of the Merger Agreement under specified circumstances, CGI and StemoniX may be required to reimburse the other party's expenses in an amount up to \$500,000, including upon either party's due acceptance of a third-party competing proposal during the term or within 12 months after termination of the Merger Agreement. In addition, either CGI or StemoniX may terminate the Merger Agreement if the Merger is not consummated on or before January 15, 2021 (the "End Date"), provided that in the event the meeting of CGI stockholders is adjourned or postponed, the End Date shall automatically be extended to the date that is ten (10) days following such adjournment or postponement.

The foregoing description of the Merger Agreement is not complete and is qualified in its entirety by reference to the Merger Agreement, which is included as Annex A to the proxy statement/prospectus/information statement forming part of the Form S-4 and incorporated herein by reference.

## About StemoniX

StemoniX develops and manufactures human induced pluripotent stem cell (iPSC) based neural, cardiac and pancreatic screening platforms for drug discovery and development. Engineered from human skin and blood cells, iPSCs are made with in-licensed patented processes discovered by 2012 Nobel prize recipient Dr. Shinya Yamanaka. StemoniX's iPSC innovations are made from living human cells and have organ-like, or organoid, characteristics; referred to as microOrgans®. StemoniX has industrialized these microOrgans into standard multi-well plate formats that are sufficiently robust and reproducible to enable drug screening and optimization activities.

StemoniX combines its microOrgan platform with software analytics and augmented intelligence, referred to as AnalytiX™. StemoniX's integrated approach provides a compelling value proposition to pharmaceutical companies and other entities because StemoniX enables standardized, high-throughput screening of drug candidates on complex human organoids prior to human clinical studies, mitigating or in some cases avoiding the inadequacies of testing in clonal cell lines or rodents. StemoniX and its customers and collaborators believe that StemoniX's technologies will permit drug discovery in human disease areas that are difficult to address using current methodologies, accelerate preclinical drug discovery and development, reduce risk of clinical failure, predict with greater degrees of confidence and ultimately, reduce the cost of discovering new therapeutic agents.

StemoniX's business model combines both collaborations with integrated pharmaceutical companies on the derivation and subsequent supply of iPSC-based disease models and screens, and internal drug discovery efforts to identify drug candidates for licensure or clinical development. In StemoniX's disease model effort, StemoniX creates novel models per the specifications of its partners, then either sells microOrgan plates to them or performs Discovery as a Service ("DaaS") on their behalf in its facilities. StemoniX strives to receive a mixture of upfront payments, including licensing fees, milestone-based fees, and ongoing royalty payments in addition to any charges for microOrgan plates and services. While the revenue from StemoniX's disease model and screening activities represents an important component of its business, StemoniX's long-term strategy is to leverage its iPSC technology to pursue partnered and wholly-owned drug discovery projects that yield higher value assets. In its current drug discovery efforts, StemoniX typically collaborates with a partner by pooling its expertise in iPSC biology and screening analytics with the partner's medicinal chemistry capabilities.

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StemoniX was incorporated in 2014 in Minnesota with headquarters in Maple Grove, Minnesota, and a research and development team located in La Jolla, California. StemoniX focuses on new iPSC differential protocols, plating procedures, and expansion techniques. StemoniX's Maple Grove manufacturing facility focuses on the growth, differentiation, plating, and shipping of its microOrgan platforms in a highly standardized and rigorous process. The Maple Grove facility includes clean-room and biohazard safe environments to house its incubators, biological safety cabinets, liquid handling machines, refrigerators, and office space. Both facilities also have diagnostic equipment for quality control and assurance. The majority of StemoniX's DaaS revenue is generated from its Maple Grove facility.

For a more detailed description of the business of StemoniX, as well as other information about StemoniX, CGI and the Merger, please see the Form S-4, which is incorporated herein by reference, including the section titled "*Business of StemoniX*."

## Corporate Information

The Company was incorporated in the State of Delaware on April 8, 1999. On July 16, 2014, the Company purchased substantially all of the assets of Gentris Corporation, a laboratory specializing in pharmacogenomics profiling for therapeutic development, companion diagnostics and clinical trials. On October 9, 2015, the Company acquired substantially all the assets and assumed certain liabilities of Response Genetics, Inc.

On August 18, 2014 the Company acquired BioServe Biotechnologies (India) Pvt. Ltd. ("BioServe"). On April 26, 2018, the Company sold BioServe to Reprocell, Inc.

On August 15, 2017, the Company purchased all of the outstanding stock of vivoPharm, with its principal place of business in Victoria, Australia.

On July 5, 2019, the Company entered into an asset purchase agreement with siParadigm, LLC, pursuant to which the Company sold to siParadigm certain assets associated with the Company's clinical laboratory business and agreed to cease operating the Clinical Business (the "Clinical Business Disposal"). On July 15, 2019, the Company entered into commercial agreements with the Company's senior lenders to divest all of the assets relating to the BioPharma Business (the "BioPharma Business Disposal" and, together with the Clinical Business Disposal, the "Business Disposals"), in satisfaction of all of the Company's senior debt.

The Company's principal executive offices are located at 201 Route 17 North, 2nd Floor, Rutherford, New Jersey 07070. The Company's telephone number is (201) 528-9200 and the corporate website address is [www.cancergenetics.com](http://www.cancergenetics.com). The Company included the website address in this prospectus supplement only as an inactive textual reference and does not intend it to be an active link to the Company website. The information on the website is not incorporated by reference in this prospectus supplement.

The Company's most recent annual report on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and all amendments to those reports, as well as other documents the Company files with the U.S. Securities and Exchange Commission ("SEC"), such as the Form S-4, are available free of charge through the Investors section of the Company website as soon as reasonably practicable after such material is electronically filed with or furnished to the SEC. The public can obtain documents that the Company files with the SEC at [www.sec.gov](http://www.sec.gov).

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## THE OFFERING

<b>Common stock offered by us</b>	Shares of our common stock having an aggregate offering price of up to \$2,400,000.
<b>Common stock to be outstanding after the offering</b>	Up to 5,011,943 shares, after giving effect to the assumed sale of \$2,400,000 of shares of our common stock at an assumed price of \$2.59 per share, which was the closing price of our common stock on the Nasdaq Capital Market on November 30, 2020. The actual number of shares issued will vary depending on the price at which shares may be sold from time to time during this offering. (1)
<b>Manner of offering</b>	"At the market offering," as defined in Rule 415(a)(4) of the Securities Act, that may be made from time to time by Wainwright, as sales agent. See "Plan of Distribution" on page S-9 of this prospectus supplement.
<b>Use of proceeds</b>	We intend to use the net proceeds from this offering for working capital and other general corporate purposes. See "Use of Proceeds" for additional information.

**Risk factors** Investing in our common stock involves significant risks. See the section entitled “Risk Factors” beginning on page S-6 and the other information included or incorporated by reference in this prospectus supplement and the accompanying prospectus for a discussion of factors you should carefully consider before deciding to invest in shares of our common stock.

**The Nasdaq Capital Market symbol** Our common stock is currently listed on the Nasdaq Capital Market under the symbol “CGIX.”

(1)  
The number of shares of our common stock to be outstanding after this offering is based on 4,085,303 shares of common stock outstanding as of November 30, 2020 and excludes the following:

- 206,347 shares of common stock issuable upon the exercise of outstanding warrants at a weighted average exercise price of \$41.77 per share;
- 70,795 shares of common stock issuable upon the exercise of outstanding stock options issued pursuant to our 2008 Stock Option Plan and 2011 Equity Incentive Plan (collectively, the “Incentive Plans”) at a weighted average exercise price of \$83.90 per share; and
- 24,552 shares of common stock reserved for future issuance under our 2011 Equity Incentive Plan.

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## RISK FACTORS

You should carefully consider the following risk factors and the risk factors discussed under the heading “Risk Factors” included in the Form S-4, filed on October 16, 2020, and in our most recent annual report on Form 10-K and the subsequent quarterly reports on Form 10-Q and other reports that we file with the SEC, which are incorporated by reference in this prospectus supplement in their entirety, together with all of the other information contained in this prospectus supplement and the accompanying prospectus or incorporated by reference in this prospectus supplement and the accompanying prospectus. The risks described in any document incorporated by reference are not the only ones we have, but are considered to be the most material. Additional risks of which we are not presently aware or that we currently believe are immaterial may also harm our business and results of operations. If any of these risks actually occur, our business, financial condition and results of operations would likely suffer. In that case, the market price of the common stock could decline, and you may lose part or all of your investment in our company.

### Risks Related to this Offering of Our Common Stock

*Sales of our common stock in this offering, or the perception that such sales may occur, could cause the market price of our common stock to fall.*

We may issue and sell shares of our common stock for aggregate gross proceeds of up to \$2,400,000 from time to time in connection with this offering. The issuance and sale from time to time of these new shares of common stock, or our ability to issue these new shares of common stock in this offering, could have the effect of depressing the market price of our common stock.

*You will suffer immediate and substantial dilution in the net tangible book value per share of the common stock that you purchase in this offering.*

The shares sold in this offering, if any, will be sold from time to time at various prices; however, the assumed public offering price of our common stock is substantially higher than the as-adjusted net tangible book value per share of our common stock. Therefore, investors purchasing shares of our common stock in this offering will pay a price per share that substantially exceeds the as-adjusted net tangible book value per share after this offering. Assuming that an aggregate of 926,640 shares of our common stock are sold at an assumed public offering price of \$2.59 per share, the last reported sale price of our common stock on the Nasdaq Capital Market on November 30, 2020, for aggregate gross proceeds of \$2,400,000, and after deducting commissions and estimated offering expenses payable by us, new investors in this offering will experience immediate dilution of \$1.74 per share, representing the difference between the assumed public offering price and our as adjusted net tangible book value per share after giving effect to this offering. See “Dilution” for a more detailed discussion of the dilution you would incur if you purchase common stock in this offering.

*You may experience future dilution as a result of future equity offerings.*

In order to raise additional capital, we may in the future offer additional shares of our common stock or other securities convertible into or exchangeable for our common stock at prices that may not be the same as the price per share in this offering. The price per share at which we sell additional shares of our common stock, or securities convertible or exchangeable into common stock, in future transactions may be lower than the price per share paid by investors in this offering.

*Our management will have broad discretion in the use of the net proceeds from this offering and may not use them effectively.*

Our management will have broad discretion in the application of the net proceeds from this offering and our stockholders will not have the opportunity as part of their investment decisions to assess whether the net proceeds are being used appropriately. You may not agree with our decisions, and our use of the proceeds may not yield any return on your investment. Because of the number and variability of factors that will determine our use of the net proceeds from this offering, their ultimate use may vary substantially from their currently intended use. Our failure to apply the net proceeds of this offering effectively could compromise our ability to pursue our growth strategy and we might not be able to yield a significant return, if any, in our investment of these net proceeds. You will not have the opportunity to influence our decisions on how to use our net proceeds from this offering.

*The common stock offered hereby will be sold in “at-the-market” offerings, and investors who buy shares at different times will likely pay different prices.*

Investors who purchase shares in this offering at different times will likely pay different prices, and so may experience different outcomes in their investment results. We will have discretion, subject to market demand, to vary the timing, prices, and numbers of shares sold, and there is no minimum or maximum sales price. Investors may experience a decline in the value of their shares as a result of share sales made at prices lower than the prices they paid.

*The actual number of shares we will issue under the Sales Agreement, at any one time or in total, is uncertain.*

Subject to certain limitations in the Sales Agreement and compliance with applicable law, we have the discretion to deliver a sales notice to Wainwright at any time throughout the term of the Sales Agreement. The number of shares that are sold by Wainwright after we deliver a sales notice will fluctuate based on the market price of the common stock during the sales period and limits we set with Wainwright. Because the price per share of each share sold will fluctuate based on the market price of our common stock during the sales period, it is not possible at this stage to predict the number of shares, if any, that will ultimately be issued.

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We may issue and sell shares of our common stock having aggregate gross proceeds of up to \$2.4 million from time to time. Because there is no minimum offering amount required as a condition to close this offering, the actual total public offering amount, commissions paid to Wainwright and proceeds to us, if any, are not determinable at this time. We estimate that the net proceeds from the sale of the shares of common stock that we are offering may be up to approximately \$2,203,000, after deducting commissions payable to Wainwright and estimated offering expenses payable by us.

We intend to use the net proceeds of this offering for working capital and other general corporate purposes. We have not yet determined the amount of net proceeds to be used specifically for any particular purposes or the timing of these expenditures. Accordingly, our management will have significant discretion and flexibility in applying the net proceeds from the sale of these securities, and investors will be relying on our judgment regarding the application of the net proceeds from this offering.

Pending our use of the net proceeds from this offering, we intend to maintain the net proceeds as cash deposits or cash management instruments, such as U.S. government securities or money market mutual funds.

#### DIVIDEND POLICY

We have not declared or paid any cash dividends on our capital stock. We currently intend to retain any future earnings for use in the operation of our business and do not anticipate paying any dividends on our common stock in the foreseeable future. Any future determination to declare dividends will be made at the discretion of our board of directors and will depend on our financial condition, operating results, capital requirements, general business conditions and other factors that our board of directors may deem relevant.

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#### DILUTION

If you purchase shares of common stock in this offering, you will experience dilution to the extent of the difference between the public offering price per share in this offering and our pro forma as adjusted net tangible book value per share after this offering.

Net tangible book value per share represents total tangible assets less total liabilities, divided by the number of shares of common stock outstanding. Our historical net tangible book value (deficit) as of September 30, 2020 was \$(848,000), or \$(0.34) per share of common stock. After giving effect to our issuance and sale of 1,568,182 shares of common stock in our public offering that closed on November 2, 2020, after deducting the underwriting discounts and commissions and estimated offering expenses payable by us, the pro forma net tangible book value as of September 30, 2020 would have been \$2,028,000, or \$0.50 per share.

After giving effect to the sale of our common stock in the aggregate amount of \$2,400,000 at an assumed public offering price of \$2.59 per share, the last reported sale price of our common stock on the Nasdaq Capital Market on November 30, 2020, and after deducting commissions and estimated offering expenses payable by us, our pro forma as adjusted net tangible book value as of September 30, 2020 would have been \$4,231,000, or \$0.85 per share. This represents an immediate increase in pro forma net tangible book value of \$0.35 per share to existing stockholders and an immediate dilution in pro forma as adjusted net tangible book value of \$1.74 per share to new investors in this offering.

The following table illustrates this dilution on a per share basis. The pro forma as adjusted information is illustrative only and will adjust based on the actual public offering price, the actual number of shares sold and other terms of the offering determined at the time shares of our common stock are sold pursuant to this prospectus supplement. The as adjusted information assumes that all of our common stock in the aggregate amount of \$2,400,000 is sold at the assumed public offering price of \$2.59 per share. The shares sold in this offering, if any, will be sold from time to time at various prices.

Assumed public offering price per share		\$	2.59
Historical net tangible book value (deficit) per share as of September 30, 2020	\$		(0.34)
Increase in historical net tangible book value per share	\$		<u>0.84</u>
Pro forma net tangible book value per share as of September 30, 2020	\$		0.50
Increase in pro forma net tangible book value per share attributable to this offering	\$		0.35
Pro forma as adjusted net tangible book value per share, after giving effect to this offering	\$		0.85
Dilution per share to new investors in this offering	\$		1.74

This information is supplied for illustrative purposes only, and will adjust based on the actual offering prices, the actual number of shares that we offer and sell in this offering and other terms of each sale of shares in this offering. An increase of \$0.50 per share in the price at which the shares are sold from the assumed offering price of \$2.59 per share shown in the table above, assuming all of our common stock in the aggregate amount of \$2,400,000 is sold at that price, would increase our pro forma as adjusted net tangible book value per share after the offering to \$0.87 per share and would increase the dilution in pro forma as adjusted net tangible book value per share to new investors in this offering to \$2.22 per share, after deducting estimated offering expenses and commissions payable by us. A decrease of \$0.50 per share in the price at which the shares are sold from the assumed offering price of \$2.59 per share shown in the table above, assuming all of our common stock in the aggregate amount of \$2,400,000 is sold at that price, would increase our pro forma as adjusted net tangible book value per share after the offering to \$0.81 per share and would decrease the dilution in pro forma as adjusted net tangible book value per share to new investors in this offering to \$1.28 per share, after deducting estimated offering expenses and commissions payable by us.

The above discussion and tables are based on 2,507,155 shares of common stock outstanding as of September 30, 2020 and excludes the following:

- 279,289 shares of common stock issuable upon the exercise of outstanding warrants at a weighted average exercise price of \$104.38 per share;
- 70,795 shares of common stock issuable upon the exercise of outstanding stock options issued pursuant to our Incentive Plans at a weighted average exercise price of \$83.90 per share; and
- 24,552 shares of common stock reserved for future issuance under our Incentive Plan.

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#### PLAN OF DISTRIBUTION

We have entered into a Sales Agreement with Wainwright, under which we may issue and sell from time to time shares of our common stock having an aggregate offering price of not more than \$2,400,000 through Wainwright as our sales agent. Sales of the common stock, if any, will be made by any method permitted by law deemed to be an "at the market offering" as defined in Rule 415 promulgated under the Securities Act. If we and Wainwright agree on any method of distribution other than sales of shares of our common stock into the Nasdaq Capital Market or another existing trading market in the United States at market prices, we will file a further prospectus supplement providing all information about such offering as required by Rule 424(b) under the Securities Act.

Wainwright will offer our common stock at prevailing market prices subject to the terms and conditions of the Sales Agreement as agreed upon by us and Wainwright. We will designate the number of shares which we desire to sell, the time period during which sales are requested to be made, any limitation on the number of shares that may be sold in

one day and any minimum price below which sales may not be made. Subject to the terms and conditions of Sales Agreement, Wainwright will use its commercially reasonable efforts consistent with its normal trading and sales practices and applicable law and regulations to sell on our behalf all of the shares of common stock requested to be sold by us. We or Wainwright may suspend the offering of the common stock being made through Wainwright under the Sales Agreement upon proper notice to the other party.

Settlement for sales of common stock will occur on the second business day or such shorter settlement cycle as may be in effect under Exchange Act Rule 15c6-1 from time to time, following the date on which any sales are made, or on some other date that is agreed upon by us and Wainwright in connection with a particular transaction, in return for payment of the net proceeds to us. Sales of our common stock as contemplated in this prospectus will be settled through the facilities of The Depository Trust Company or by such other means as we and Wainwright may agree upon. There is no arrangement for funds to be received in an escrow, trust or similar arrangement.

We will pay Wainwright in cash, upon each sale of our shares of common stock pursuant to the Sales Agreement, a commission equal to 3.0% of the gross proceeds from each sale of shares of our common stock. Because there is no minimum offering amount required as a condition to this offering, the actual total public offering amount, commissions and proceeds to us, if any, are not determinable at this time. Pursuant to the terms of the Sales Agreement, we agreed to reimburse Wainwright for the reasonable fees and expenses of its legal counsel incurred in connection with entering into the transactions contemplated by the Sales Agreement in an amount not to exceed \$50,000 in the aggregate. Additionally, pursuant to the terms of the Sales Agreement, we agreed to reimburse Wainwright for the documented fees and costs of its legal counsel reasonably incurred in connection with Wainwright's ongoing diligence, drafting and other filing requirements arising from the transactions contemplated by the Sales Agreement in an amount not to exceed \$2,500 in the aggregate per calendar quarter. We estimate that the total expenses of the offering payable by us, excluding commissions payable to Wainwright under the Sales Agreement, will be approximately \$125,000. We will report at least quarterly the number of shares of common stock sold through Wainwright under the Sales Agreement and the resulting net proceeds to us.

In connection with the sales of common stock on our behalf, Wainwright will be deemed to be an "underwriter" within the meaning of the Securities Act, and the compensation paid to Wainwright will be deemed to be underwriting commissions or discounts. We have agreed in the Sales Agreement to provide indemnification and contribution to Wainwright against certain liabilities, including liabilities under the Securities Act.

The offering of our shares of common stock pursuant to the Sales Agreement will terminate upon the earlier of the (i) sale of all of our shares of common stock provided for in this prospectus supplement or (ii) termination of the Sales Agreement as permitted therein.

To the extent required by Regulation M, Wainwright will not engage in any market making activities involving our shares of common stock while the offering is ongoing under this prospectus supplement.

Wainwright and its affiliates may in the future provide various investment banking and other financial services for us and our affiliates, for which services they may in the future receive customary fees. This summary of the material provisions of the Sales Agreement does not purport to be a complete statement of its terms and conditions. We will file a copy of the Sales Agreement with the SEC on a Current Report on Form 8-K within the time required by the Exchange Act.

This prospectus in electronic format may be made available on a website maintained by Wainwright and Wainwright may distribute this prospectus electronically.

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## LEGAL MATTERS

Lowenstein Sandler LLP, Roseland, New Jersey, will pass upon the validity of the shares of common stock offered by this prospectus supplement. Certain matters will be passed upon for Wainwright by Ellenoff Grossman & Schole LLP, New York, New York.

## EXPERTS

The consolidated financial statements of Cancer Genetics, Inc. and subsidiaries as of December 31, 2019 and for the year ended December 31, 2019 have been audited by Marcum LLP, an independent registered public accounting firm, as stated in their report which is incorporated by reference herein, (which report includes an explanatory paragraph as to the Company's ability to continue as a going concern and a paragraph regarding other matters including 1) the audit of the restatement for discontinued operations, 2) a reverse stock-split and 3) change in accounting principle). Such financial statements have been incorporated by reference herein in reliance on the report of such firm, given upon their authority as experts in auditing and accounting.

The consolidated financial statements as of December 31, 2018 and for the year then ended have been audited by RSM US LLP, an independent registered public accounting firm, as stated in their report thereon (which report expresses an unqualified opinion on the financial statements, except for effects of the adjustments, if any, as might have been determined to be necessary had they been engaged to audit the Company's restatement for discontinued operations and a reverse stock-split and emphasis of matter paragraphs stating 1) they were not engaged to audit the restatement for discontinued operations and a reverse stock-split, 2) for substantial doubt about the Company's ability to continue as a going concern and 3) change in accounting principle), incorporated herein by reference, and have been incorporated in this prospectus supplement in reliance upon such report and upon the authority of such firm as experts in accounting and auditing.

The financial statements of StemoniX, Inc. as of and for the years ended December 31, 2019 and December 31, 2018, incorporated by reference herein, have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report incorporated by reference herein (which report expresses an unqualified opinion on the financial statements and includes explanatory paragraphs referring to substantial doubt regarding StemoniX, Inc.'s ability to continue as a going concern and a change in accounting principle related to the adoption of Accounting Standards Update 2016-02, *Leases* (Topic 842)). Such financial statements have been so incorporated by reference in reliance upon the report of such firm given upon their authority as experts in accounting and auditing.

## WHERE YOU CAN FIND MORE INFORMATION

We file annual reports, quarterly reports, current reports, proxy statements and other information with the SEC. Our SEC filings are and will become available to the public over the Internet at the SEC's website at [www.sec.gov](http://www.sec.gov). You can also find our public filings on our website at [www.cuebiopharma.com](http://www.cuebiopharma.com). Our website and the information contained therein or connected thereto are not part of this prospectus supplement or the accompanying prospectus.

We have filed with the SEC a registration statement on Form S-3 under the Securities Act with respect to the shares of common stock being offered by this prospectus supplement. This prospectus supplement and the accompanying prospectus are a part of that registration statement but do not contain all of the information set forth in the registration statement or the exhibits to the registration statement. For further information with respect to us and the shares we are offering pursuant to this prospectus supplement, you should refer to the registration statement and its exhibits. Statements contained in this prospectus supplement as to the contents of any contract, agreement or other document referred to are not necessarily complete, and you should refer to the copy of that contract or other documents filed as an exhibit to the registration statement. You may read or obtain a copy of the registration statement at the SEC's website referred to above.

## INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to "incorporate by reference" information from other documents that we file with it, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus supplement and the accompanying prospectus. Information in this prospectus supplement supersedes information incorporated by reference that we filed with the SEC prior to the date of this prospectus supplement.

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We incorporate by reference the documents listed below that we have previously filed with the SEC:

- our Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on May 29, 2020;
- our Quarterly Reports on Form 10-Q for the quarters ended March 31, 2020, June 30, 2020 and September 30, 2020, filed with the SEC on June 24, 2020 (as amended on July 6, 2020), August 13, 2020 and November 12, 2020, respectively;
- our Current Reports on Form 8-K filed with the SEC on February 27, 2020, March 30, 2020, May 14, 2020, June 12, 2020, August 24, 2020, September 3, 2020, September 15, 2020, September 24, 2020, September 30, 2020, October 19, 2020, November 2, 2020, November 20, 2020 and December 2, 2020 (two such filings on such date) (other than any portions thereof deemed furnished and not filed);
- our Registration Statement on Form S-4 (File No. 333-249513) filed with the SEC on October 16, 2020; and
- the description of our common stock, par value \$0.0001 per share, contained in our Form 8-A filed on August 12, 2013, including any amendment or report filed for the purpose of updating such description.

All documents we file with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, except as to any portion of any report or documents that is not deemed filed under such provisions, on or after the date of this prospectus supplement until the termination of this offering shall be deemed incorporated by reference in this prospectus supplement and the accompanying prospectus and to be a part of this prospectus supplement from the date of filing of those documents.

We will furnish without charge to you, on written or oral request, a copy of any or all of the documents incorporated by reference, including exhibits to these documents. You should direct any requests for documents to Cancer Genetics, Inc., 201 Route 17 North, 2<sup>nd</sup> Floor, Rutherford, New Jersey; Telephone: (201) 528-9200. Copies of the above reports may also be accessed from our website at [www.cancergenetics.com](http://www.cancergenetics.com). The information contained on, or that may be obtained from, our website is not, and shall not be deemed to be, a part of this prospectus supplement or the accompanying prospectus.

We have authorized no one to provide you with any information that differs from that contained in this prospectus supplement, the accompanying prospectus or incorporated by reference herein or therein. Accordingly, you should not rely on any information that is not contained in this prospectus supplement or the accompanying prospectus or incorporated by reference herein or therein. You should not assume that the information in this prospectus supplement is accurate as of any date other than the date of the front cover of this prospectus supplement.

Any statement contained in a document incorporated or deemed to be incorporated by reference in this prospectus supplement will be deemed modified, superseded or replaced for purposes of this prospectus supplement 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, supersedes or replaces such statement.

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## PROSPECTUS

### Cancer Genetics, Inc.



**\$100,000,000**

**Common Stock  
Preferred Stock  
Warrants  
Debt Securities  
Subscription Rights  
Units**

We may offer, issue and sell from time to time together or separately, in one or more offerings, any combination of (i) our common stock, (ii) our preferred stock, which we may issue in one or more series, (iii) warrants, (iv) senior or subordinated debt securities, (v) subscription rights and (vi) units. The debt securities may consist of debentures, notes, or other types of debt. The debt securities, preferred stock, warrants and subscription rights may be convertible into, or exercisable or exchangeable for, common or preferred stock or other securities of ours. The units may consist of any combination of the securities listed above.

The aggregate public offering price of the securities that we may offer will not exceed \$100,000,000. We will offer the securities in an amount and on terms that market conditions will determine at the time of the offering. Our common stock is listed on the Nasdaq Capital Market under the symbol "CGIX." The last reported sale price for our common stock on June 25, 2020 as quoted on the Nasdaq Capital Market was \$3.04 per share. You are urged to obtain current market quotations of our common stock. We have no preferred stock, warrants, debt securities, subscription rights or units listed on any market. Each prospectus supplement will indicate if the securities offered thereby will be listed on any securities exchange.

Investing in our securities involves risk. You should carefully consider the risks that we refer you to under the section captioned "Risk Factors" in this prospectus on page 3 before buying our securities.

Should we offer any of the securities described in this prospectus, we will provide you with the specific terms of the particular securities being offered in supplements to this prospectus. You should read this prospectus and any supplement, together with additional information described under the headings "Additional Information" and "Incorporation of Certain Information by Reference" carefully before you invest. This prospectus may not be used to sell securities unless accompanied by a prospectus supplement.

We may sell these securities directly to our stockholders or to other purchasers or through agents on our behalf or through underwriters or dealers as designated from time to time. If any agents or underwriters are involved in the sale of any of these securities, the applicable prospectus supplement will provide the names of the agents or underwriters and any applicable fees, commissions or discounts.

The aggregate market value of the shares of our common stock held by non-affiliates pursuant to General Instruction I.B.6 of Form S-3 is approximately \$8,680,000, which was calculated based on 2,169,880 shares of our common stock outstanding and held by non-affiliates as of the date of this Prospectus and a price of \$4.00 per share, the closing price of our common stock on the Nasdaq Capital Market on June 8, 2020. We have not sold any securities of the types listed above 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.

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 July 21, 2020.

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Cancer Genetics, Inc. is referred to herein as “Cancer Genetics,” “the Company,” “we,” “us,” and “our,” unless the context indicates otherwise.

You may only rely on the information contained in this prospectus and the accompanying prospectus supplement or that we have referred you to. We have not authorized anyone to provide you with different information. This prospectus and any prospectus supplement do not constitute an offer to sell or a solicitation of an offer to buy any securities other than the securities offered by this prospectus and the prospectus supplement. This prospectus and any prospectus supplement do not constitute an offer to sell or a solicitation of an offer to buy any securities in any circumstances in which such offer or solicitation is unlawful. Neither the delivery of this prospectus or any prospectus supplement nor any sale made hereunder shall, under any circumstances, create any implication that there has been no change in our affairs since the date of this prospectus or such prospectus supplement or that the information contained by reference to this prospectus or any prospectus supplement is correct as of any time after its date.

## ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission, or SEC, using a “shelf” registration process. Under this shelf registration process, we may from time to time offer and sell, in one or more offerings, any or all of the securities described in this prospectus, separately or together, up to an aggregate offering price of \$100,000,000. This prospectus provides you with a general description of our securities being offered. When we issue the securities being offered by this prospectus, we will provide a prospectus supplement (which term includes, as applicable, the at-the-market sale agreement prospectus filed with the registration statement of which this prospectus forms a part) that will contain specific information about the terms of that offering. The prospectus supplement may also add, update or change information contained in this prospectus. You should read both this prospectus and any prospectus supplement together with additional information described under the heading “Additional Information” and “Incorporation of Certain Information by Reference.”

## PROSPECTUS SUMMARY

The following summary highlights some information from this prospectus. It is not complete and does not contain all of the information that you should consider before making an investment decision. You should read this entire prospectus, including the “Risk Factors” section on page 3 and the disclosures to which that section refers you, the financial statements and related notes and the other more detailed information appearing elsewhere or incorporated by reference into this prospectus before investing in any of the securities described in this prospectus.

### Overview

Cancer Genetics, Inc. supports the efforts of the biotechnology and pharmaceutical industries to develop innovative new drug therapies. Until the closing of the Business Disposals (as defined below) in July 2019, the Company was an emerging leader in enabling precision medicine in oncology by providing multi-disciplinary diagnostic and data solutions, facilitating individualized therapies through the Company’s diagnostic tests, services and molecular markers. Following the Business Disposals, the Company currently has an extensive set of anti-tumor referenced data based on predictive xenograft and syngeneic tumor models from the acquisition of vivoPharm, Pty Ltd. (“vivoPharm”) in 2017, to provide Discovery Services such as contract research services, focused primarily on unique specialized studies to guide drug discovery and development programs in the oncology and immuno-oncology fields. The Company’s tests and techniques target a wide range of indications, covering all ten of the top cancers in prevalence in the United States, with additional unique capabilities offered by its FDA-cleared Tissue of Origin® test for identifying difficult to diagnose tumor types or poorly differentiated metastatic disease.

The Company offers preclinical services such as predictive tumor models, human orthotopic xenografts and syngeneic immuno-oncology relevant tumor models in its Hershey, PA facility, and is a leader in the field of immuno-oncology preclinical services in the United States. This service is supplemented with GLP toxicology and extended bioanalytical services in the Company’s Australian-based facilities in Clayton, Victoria, and Gilles Plains, South Australia.

### Corporate Information

Our principal executive offices are located at 201 Route 17 North, 2<sup>nd</sup> Floor, Rutherford, New Jersey 07070, and our telephone number is (201) 528-9200. Our common stock is currently traded on The NASDAQ Capital Market under the symbol “CGIX.” We maintain a corporate website at [www.cancer-genetics.com](http://www.cancer-genetics.com). The contents of our website are not incorporated by reference into this prospectus and should not be considered to be a part of this prospectus or relied upon in connection herewith. You should not rely on our website or any such information in making your decision whether to purchase our securities.

We were incorporated in the State of Delaware on April 8, 1999. On July 16, 2014 we purchased substantially all of the assets of Gentris Corporation, a laboratory specializing in pharmacogenomics profiling for therapeutic development, companion diagnostics and clinical trials, which previously supported our BioPharma Business. On October 9, 2015, we acquired substantially all the assets and assumed certain liabilities of Response Genetics, Inc., which previously supported our Clinical Business. On August 15, 2017, we purchased all of the outstanding stock of vivoPharm, with its principal place of business in Victoria, Australia. On July 8, 2019, we consummated the sale of our Clinical Business (the “Clinical Sale”), and on July 15, 2019, we consummated the sale of our BioPharma Business (the “BioPharma Sale” and, together with the Clinical Sale, the “Business Disposals”).

## RISK FACTORS

Before purchasing any of the securities you should carefully consider the risk factors incorporated by reference in this prospectus from our Annual Report on Form 10-K for the fiscal year ended December 31, 2019 and any subsequent updates described in our Quarterly Reports on Form 10-Q and Current Reports on Form 8-K, as well as the risks, uncertainties and additional information set forth in our SEC reports on Forms 10-K, 10-Q and 8-K and in the other documents incorporated by reference in this prospectus. For a description of these reports and documents, and information about where you can find them, see “Additional Information” and “Incorporation of Certain Information By Reference.” Additional risks not presently known or that we presently consider to be immaterial could subsequently materially and adversely affect our financial condition, results of operations, business and prospects.

## FORWARD-LOOKING STATEMENTS

This prospectus, including the documents that we incorporate by reference, contains forward-looking statements as that term is defined in the federal securities laws. The events described in forward-looking statements contained in this prospectus, including the documents that we incorporate by reference, may not occur. Generally, these statements relate to our business plans or strategies, projected or anticipated benefits or other consequences of our plans or strategies, financing plans, projected or anticipated benefits from acquisitions that we may make, or projections involving anticipated revenues, earnings or other aspects of our operating results or financial position, and the outcome of any contingencies. Any such forward-looking statements are based on current expectations, estimates and projections of management. We intend for these forward-looking statements to be covered by the safe-harbor provisions for forward-looking statements. Words such as “may,” “expect,” “believe,” “anticipate,” “project,” “plan,” “intend,” “estimate,” and “continue,” and their opposites and similar expressions are intended to identify forward-looking statements. We caution you that these statements are not guarantees of future performance or events and are subject to a number of uncertainties, risks and other influences, many of which are beyond our control that may influence the accuracy of the statements and the projections upon which the statements are based. Factors that may affect our results include, but are not limited to, the risks and uncertainties discussed in the “Risk Factors” section on page 3 of this prospectus, in our Annual Report on Form 10-K for the fiscal year ended December 31, 2019 or in other reports we file with the Securities and Exchange Commission.

Any one or more of these uncertainties, risks and other influences could materially affect our results of operations and whether forward-looking statements made by us ultimately prove to be accurate. Our actual results, performance and achievements could differ materially from those expressed or implied in these forward-looking statements. We undertake no obligation to publicly update or revise any forward-looking statements, whether from new information, future events or otherwise.

You should rely only on the information in this prospectus. We have not authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely upon it.

## USE OF PROCEEDS

Unless we inform you otherwise in the prospectus supplement relating to a particular offering of securities, we will use the net proceeds from the sale of the securities offered by this prospectus and the exercise price from the exercise of any convertible securities, if any, for working capital and other general corporate purposes, which may include funding acquisitions or investments in businesses, products or technologies that are complementary to our own and reducing indebtedness.

When particular securities are offered, the prospectus supplement relating to that offering will set forth our intended use of the net proceeds received from the sale of those securities we sell. Pending the application of the net proceeds for these purposes, we expect to invest the proceeds in short-term, interest-bearing instruments or other investment-grade securities.

## THE SECURITIES WE MAY OFFER

### General

The descriptions of the securities contained in this prospectus, together with the applicable prospectus supplements, summarize all of the material terms and provisions of the various types of securities that we may offer. We will describe in the applicable prospectus supplement relating to any securities the particular terms of the securities offered by that prospectus supplement. If we indicate in the applicable prospectus supplement, the terms of the securities may differ from the terms we have summarized below. We may also include in the prospectus supplement information about material United States federal income tax considerations relating to the securities, and the securities exchange, if any, on which the securities will be listed.

We may sell from time to time, in one or more offerings:

- common stock;
- preferred stock;
- debt securities;
- subscription rights to purchase shares of common stock, preferred stock or debt securities;
- warrants to purchase shares of common stock or preferred stock; and
- units consisting of any combination of the securities listed above.

In this prospectus, we refer to the common stock, preferred stock, debt securities, subscription rights, warrants and units collectively as “securities.” The total dollar amount of all securities that we may sell pursuant to this prospectus will not exceed \$100,000,000.

If we issue debt securities at a discount from their original stated principal amount, then, for purposes of calculating the total dollar amount of all securities issued under this prospectus, we will treat the initial offering price of the debt securities as the total original principal amount of the debt securities.

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

## DESCRIPTION OF CAPITAL STOCK

### General

Our authorized capital stock consists of:

- 100,000,000 shares of common stock, par value \$0.0001 per share; and
- 9,764,000 shares of preferred stock, par value \$0.0001 per share, of which, as of the date of this prospectus, none of which shares have been designated.

As of close of business on June 25, 2020, 2,260,883 shares of common stock were issued and outstanding and no shares of preferred stock were issued and outstanding.

The additional shares of our authorized capital stock available for issuance may be issued at times and under circumstances so as to have a dilutive effect on earnings per share and on the equity ownership of the holders of our common stock. The ability of our board of directors to issue additional shares of stock could enhance the board’s ability to negotiate on behalf of the stockholders in a takeover situation but could also be used by the board to make a change of control more difficult, thereby denying stockholders the potential to sell their shares at a premium and entrenching current management. The following description is a summary of the material provisions of our capital stock. You should refer to our certificate of incorporation, as amended, and our bylaws, both of which are on file with the SEC as exhibits to previous SEC filings, for additional information. The summary below is qualified by provisions of applicable law.

## **Common Stock**

*Voting.* Holders of our common stock are entitled to one vote per share in the election of directors and on all other matters on which stockholders are entitled or permitted to vote. Holders of our common stock are not entitled to cumulative voting rights..

*Dividends.* Subject to the terms of any outstanding series of preferred stock, the holders of our common stock are entitled to dividends in the amounts and at times as may be declared by the board of directors out of funds legally available therefor.

*Liquidation Rights.* Upon liquidation or dissolution, holders of our common stock are entitled to share ratably in all net assets available for distribution to stockholders after we have paid, or provided for payment of, all of our debts and liabilities, and after payment of any liquidation preferences to holders of our preferred stock.

*Other Matters.* Holders of our common stock have no redemption, conversion or preemptive rights. There are no sinking fund provisions applicable to our common stock. The rights, preferences and privileges of the holders of our common stock are subject to the rights of the holders of shares of any series of preferred stock that we may issue in the future.

## **Transfer Agent and Registrar**

The transfer agent and registrar for our common stock is Continental Stock Transfer & Trust Company, LLC.

## **Preferred Stock**

We are authorized to issue up to 9,764,000 shares of preferred stock, all of which are undesignated. Our board of directors has the authority to issue preferred stock in one or more classes or series and to fix the designations, powers, preferences and rights, and the qualifications, limitations or restrictions thereof, including dividend rights, conversion right, voting rights, terms of redemption, liquidation preferences and the number of shares constituting any class or series, without further vote or action by the stockholders. Although we have no present plans to issue any other shares of preferred stock, the issuance of shares of preferred stock, or the issuance of rights to purchase such shares, could decrease the amount of earnings and assets available for distribution to the holders of common stock, could adversely affect the rights and powers, including voting rights, of the common stock, and could have the effect of delaying, deterring or preventing a change of control of us or an unsolicited acquisition proposal. The preferred stock may provide for an adjustment of the conversion price in the event of an issuance or deemed issuance at a price less than the applicable conversion price, subject to certain exceptions.

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:

- 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;
- 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 our affairs; 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 our affairs.

#### **Transfer Agent and Registrar for Preferred Stock**

The transfer agent and registrar for any series or class of preferred stock will be set forth in each applicable prospectus supplement.

#### **Anti-takeover Effects of Delaware Law and our Certificate of Incorporation, as amended**

The provisions of Delaware law, our certificate of incorporation and our bylaws described below may have the effect of delaying, deferring or discouraging another party from acquiring control of us.

##### *Section 203 of the Delaware General Corporation Law*

We are subject to Section 203 of the Delaware General Corporation Law, which prohibits a Delaware corporation from engaging in any business combination with any interested stockholder for a period of three years after the date that such stockholder became an interested stockholder, with the following exceptions:

- before such date, the board of directors of the corporation approved either the business combination or the transaction that resulted in the stockholder becoming an interested stockholder;
- upon completion of the transaction that resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction began, excluding for purposes of determining the voting stock outstanding (but not the outstanding voting stock owned by the interested stockholder) those shares owned (i) by persons who are directors and also officers and (ii) employee stock plans in which employee participants do not have the right to determine confidentially whether shares held subject to the plan will be tendered in a tender or exchange offer; or
- on or after such date, the business combination is approved by the board of directors and authorized at an annual or special meeting of the stockholders, and not by written consent, by the affirmative vote of at least 66 2/3% of the outstanding voting stock that is not owned by the interested stockholder.

In general, Section 203 defines a “business combination” to include any merger or consolidation involving the corporation and the interested stockholder; any sale, transfer, pledge or other disposition of 10% or more of the assets of the corporation involving the interested stockholder; subject to certain exceptions, any transaction that results in the issuance or transfer by the corporation of any stock of the corporation to the interested stockholder; any transaction involving the corporation that has the effect of increasing the proportionate share of the stock or any class or series of the corporation beneficially owned by the interested stockholder; or the receipt by the interested stockholder of the benefit of any loss, advances, guarantees, pledges or other financial benefits by or through the corporation.

#### *Certificate of Incorporation and Bylaws*

Our certificate of incorporation and bylaws provide that:

- the authorized number of directors can be changed only by resolution of our board of directors;
- our bylaws may be amended or repealed by our board of directors or our stockholders;
- no action can be taken by stockholders except at an annual or special meeting of the stockholders called in accordance with our bylaws, and stockholders may not act by written consent, unless the stockholders amend the certificate of incorporation to provide otherwise;
- stockholders may not call special meetings of the stockholders or fill vacancies on the board;
- our board of directors will be authorized to issue, without stockholder approval, preferred stock, the rights of which will be determined at the discretion of the board of directors and that, if issued, could operate as a “poison pill” to dilute the stock ownership of a potential hostile acquirer to prevent an acquisition that our board of directors does not approve;
- our stockholders do not have cumulative voting rights, and therefore our stockholders holding a majority of the shares of common stock outstanding will be able to elect all of our directors; and
- our stockholders must comply with advance notice provisions to bring business before or nominate directors for election at a stockholder meeting.

#### **Potential Effects of Authorized but Unissued Stock**

We have shares of common stock and preferred stock available for future issuance without stockholder approval. We may utilize these additional shares for a variety of corporate purposes, including future public offerings to raise additional capital, to facilitate corporate acquisitions or payment as a dividend on the 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 render more difficult or discourage a third-party attempt to obtain control of us by means of a merger, tender offer, proxy contest or otherwise, thereby protecting the continuity of our management. In addition, the board of directors has the discretion to determine designations, rights, preferences, privileges and restrictions, including voting rights, dividend rights, conversion rights, redemption privileges and liquidation preferences of each series of preferred stock, all to the fullest extent permissible under the Delaware General Corporation Law and subject to any limitations set forth in our certificate of incorporation. The purpose of authorizing the board of directors to issue preferred stock and to determine the rights and preferences applicable to such preferred stock is to eliminate delays associated with a stockholder vote on specific issuances. The issuance of preferred stock, while providing desirable flexibility in connection with possible financings, acquisitions and other corporate purposes, could have the effect of making it more difficult for a third-party to acquire, or could discourage a third-party from acquiring, a majority of our outstanding voting stock.

## DESCRIPTION OF STOCK WARRANTS

We summarize below some of the provisions that will apply to the warrants unless the applicable prospectus supplement provides otherwise. This summary may not contain all information that is important to you. The complete terms of the warrants will be contained in the applicable warrant certificate and warrant agreement. These documents have been or will be included or incorporated by reference as exhibits to the registration statement of which this prospectus is a part. You should read the warrant certificate and the warrant agreement. You should also read the prospectus supplement, which will contain additional information and which may update or change some of the information below.

### General

We may issue, together with common or preferred stock as units or separately, warrants for the purchase of shares of our common or preferred stock. The terms of each warrant will be discussed in the applicable prospectus supplement relating to the particular series of warrants. The form(s) of certificate representing the warrants and/or the warrant agreement will be, in each case, filed with the SEC as an exhibit to a document incorporated by reference in the registration statement of which this prospectus is a part on or prior to the date of any prospectus supplement relating to an offering of the particular warrant. The following summary of material provisions of the warrants and the warrant agreements are subject to, and qualified in their entirety by reference to, all the provisions of the warrant agreement and warrant certificate applicable to a particular series of warrants.

The prospectus supplement relating to any series of warrants that are offered by this prospectus will describe, among other things, the following terms to the extent they are applicable to that series of warrants:

- the procedures and conditions relating to the exercise of the warrants;
- the number of shares of our common or preferred stock, if any, issued with the warrants;
- the date, if any, on and after which the warrants and any related shares of our common or preferred stock will be separately transferable;
- the offering price of the warrants, if any;
- the number of shares of our common or preferred stock which may be purchased upon exercise of the warrants and the price or prices at which the shares may be purchased upon exercise;
- the date on which the right to exercise the warrants will begin and the date on which the right will expire;
- a discussion of the material United States federal income tax considerations applicable to the exercise of the warrants;
- anti-dilution provisions of the warrants, if any;
- call provisions of the warrants, if any; and
- any other material terms of the warrants.

Each warrant may entitle the holder to purchase for cash, or, in limited circumstances, by effecting a cashless exercise for, the number of shares of our common or preferred stock at the exercise price that is described in the applicable prospectus supplement. Warrants will be exercisable during the period of time described in the applicable prospectus supplement. After that period, unexercised warrants will be void. Warrants may be exercised in the manner described in the applicable prospectus supplement.

A holder of a warrant will not have any of the rights of a holder of our common or preferred stock before the stock is purchased upon exercise of the warrant. Therefore, before a warrant is exercised, the holder of the warrant will not be entitled to receive any dividend payments or exercise any voting or other rights associated with shares of our common or preferred stock which may be purchased when the warrant is exercised.

#### **Transfer Agent and Registrar**

The transfer agent and registrar, if any, for any warrants will be set forth in the applicable prospectus supplement.

#### **DESCRIPTION OF DEBT SECURITIES**

This prospectus describes certain general terms and provisions of debt securities that we may offer. The debt securities may be issued pursuant to, in the case of senior debt securities, a senior indenture, and in the case of subordinated debt securities, a subordinated indenture, in each case in the forms filed as exhibits to this registration statement, which we refer to as the "indentures." The indentures will be entered into between us and a trustee to be named prior to the issuance of any debt securities, which we refer to as the "trustee." The indentures will not limit the amount of debt securities that can be issued thereunder and will provide that the debt securities may be issued from time to time in one or more series pursuant to the terms of one or more securities resolutions or supplemental indentures creating such series.

We have summarized below the material provisions of the indentures and the debt securities or indicated which material provisions will be described in the related prospectus supplement for any offering of debt securities. These descriptions are only summaries, and you should refer to the relevant indenture for the particular offering of debt securities itself which will describe completely the terms and definitions of the offered debt securities and contain additional information about the debt securities.

#### **Terms**

When we offer to sell a particular series of debt securities, we will describe the specific terms of the securities in a prospectus supplement. The prospectus supplement will set forth the following terms, as applicable, of the debt securities offered thereby:

- the designation, aggregate principal amount, currency or composite currency and denominations;
- the price at which such debt securities will be issued and, if an index formula or other method is used, the method for determining amounts of principal or interest;
- the maturity date and other dates, if any, on which principal will be payable;
- whether or not the debt securities will be secured or unsecured, and the terms of any secured debt;
- whether the debt securities rank as senior debt, senior subordinated debt, subordinated debt or any combination thereof, and the terms of any subordination;
- the interest rate (which may be fixed or variable), if any;
- the date or dates from which interest will accrue and on which interest will be payable, and the record dates for the payment of interest;
- the manner of paying principal and interest;
- the place or places where principal and interest will be payable;

- the terms of any mandatory or optional redemption by us or any third party including any sinking fund;
- the terms of any conversion or exchange;
- the terms of any redemption at the option of holders or put by the holders;
- any tax indemnity provisions;
- if the debt securities provide that payments of principal or interest may be made in a currency other than that in which the debt securities are denominated, the manner for determining such payments;
- the portion of principal payable upon acceleration of a Discounted Debt Security (as defined below);
- whether and upon what terms debt securities may be defeased;
- any events of default or covenants in addition to or in lieu of those set forth in the indentures;
- provisions for electronic issuance of debt securities or for the issuance of debt securities in uncertificated form; and
- any additional provisions or other special terms not inconsistent with the provisions of the indentures, including any terms that may be required or advisable under United States or other applicable laws or regulations, or advisable in connection with the marketing of the debt securities.

Debt securities of any series may be issued as registered debt securities or uncertificated debt securities, in such denominations as specified in the terms of the series.

Securities may be issued under the indentures as Discounted Debt Securities to be offered and sold at a substantial discount from the principal amount thereof. Special United States federal income tax and other considerations applicable thereto will be described in the prospectus supplement relating to such Discounted Debt Securities. “Discounted Debt Security” means a security where the amount of principal due upon acceleration is less than the stated principal amount.

We are not obligated to issue all debt securities of one series at the same time and, unless otherwise provided in the prospectus supplement, we may reopen a series, without the consent of the holders of the debt securities of that series, for the issuance of additional debt securities of that series. Additional debt securities of a particular series will have the same terms and conditions as outstanding debt securities of such series, except for the date of original issuance and the offering price, and will be consolidated with, and form a single series with, such outstanding debt securities.

#### **Ranking**

The senior debt securities will rank equally with all of our other senior and unsubordinated debt. Our secured debt, if any, will be effectively senior to the senior debt securities to the extent of the value of the assets securing such debt. The subordinated debt securities will be subordinate and junior in right of payment to all of our present and future senior indebtedness to the extent and in the manner described in the prospectus supplement and as set forth in the board resolution, officer’s certificate or supplemental indenture relating to such offering.

We have only a stockholder’s claim on the assets of our subsidiaries. This stockholder’s claim is junior to the claims that creditors of our subsidiaries have against our subsidiaries. Holders of our debt securities will be our creditors and not creditors of any of our subsidiaries. As a result, all the existing and future liabilities of our subsidiaries, including any claims of their creditors, will effectively be senior to the debt securities with respect to the assets of our subsidiaries. In addition, to the extent that we issue any secured debt, the debt securities will be effectively subordinated to such secured debt to the extent of the value of the assets securing such secured debt.

The debt securities will be obligations exclusively of Cancer Genetics, Inc. To the extent that our ability to service our debt, including the debt securities, may be dependent upon the earnings of our subsidiaries, our ability to do so will be dependent on the ability of our subsidiaries to distribute those earnings to us as dividends, loans or other payments.

#### **Certain Covenants**

Any covenants that may apply to a particular series of debt securities will be described in the prospectus supplement relating thereto.

#### **Successor Obligor**

The indentures will provide that, unless otherwise specified in the securities resolution or supplemental indenture establishing a series of debt securities, we shall not consolidate with or merge into, or transfer all or substantially all of our assets to, any person in any transaction in which we are not the survivor, unless:

- the person is organized under the laws of the United States or a jurisdiction within the United States;
- the person assumes by supplemental indenture all of our obligations under the relevant indenture, the debt securities and any coupons;
- immediately after the transaction no Default (as defined below) exists; and
- we deliver to the trustee an officers' certificate and opinion of counsel stating that the transaction complies with the foregoing requirements and that all conditions precedent provided for in the indenture relating to the transaction have been complied with.

In such event, the successor will be substituted for us, and thereafter all of our obligations under the relevant indenture, the debt securities and any coupons will terminate.

The indentures will provide that these limitations shall not apply if our board of directors makes a good faith determination that the principal purpose of the transaction is to change our state of incorporation.

#### **Exchange of Debt Securities**

Registered debt securities may be exchanged for an equal aggregate principal amount of registered debt securities of the same series and date of maturity in such authorized denominations as may be requested upon surrender of the registered debt securities at an agency of the Company maintained for such purpose and upon fulfillment of all other requirements of such agent.

#### **Default and Remedies**

Unless the securities resolution or supplemental indenture establishing the series otherwise provides (in which event the prospectus supplement will so state), an "Event of Default" with respect to a series of debt securities will occur if:

- (1) we default in any payment of interest on any debt securities of such series when the same becomes due and payable and the default continues for a period of 30 days;
- (2) we default in the payment of all or any part of the principal and premium, if any, of any debt securities of such series when the same becomes due and payable at maturity or upon redemption, acceleration or otherwise and such default shall continue for five or more days;
- (3) we default in the performance of any of our other agreements applicable to the series and the default continues for 30 days after the notice specified below;

- (4) a court of competent jurisdiction enters an order or decree under any Bankruptcy Law (as defined below) that:
- (A) is for relief against us in an involuntary case,
  - (B) appoints a Custodian (as defined below) for us or for any substantial part of our property, or
  - (C) orders the winding up or liquidation of us, and the order or decree remains unstayed and in effect for 90 days;
- (5) we, pursuant to or within the meaning of any Bankruptcy Law:
- (A) commence a voluntary case,
  - (B) consent to the entry of an order for relief against us in an involuntary case,
  - (C) consent to the appointment of a Custodian for us or for any substantial part of our property, or
  - (D) make a general assignment for the benefit of our creditors; or
- (6) there occurs any other Event of Default provided for in such series.

The term “Bankruptcy Law” means Title 11 of the United States Code or any similar Federal or State law for the relief of debtors. The term “Custodian” means any receiver, trustee, assignee, liquidator or a similar official under any Bankruptcy Law.

“Default” means any event which is, or after notice or passage of time would be, an Event of Default. A Default under subparagraph (3) above is not an Event of Default until the trustee or the holders of at least 25% in principal amount of the series notify us of the Default and we do not cure the Default within the time specified after receipt of the notice.

The trustee may require indemnity satisfactory to it before it enforces the indentures or the debt securities of the series. Subject to certain limitations, holders of a majority in principal amount of the debt securities of the series may direct the trustee in its exercise of any trust or power with respect to such series. Except in the case of Default in payment on a series, the trustee may withhold from securityholders of such series notice of any continuing Default if the trustee determines that withholding notice is in the interest of such securityholders. We are required to furnish the trustee annually a brief certificate as to our compliance with all conditions and covenants under the indentures.

The indentures will not have cross-default provisions. Thus, a default by us on any other debt, including any other series of debt securities, would not constitute an Event of Default.

#### **Amendments and Waivers**

The indentures and the debt securities or any coupons of the series may be amended, and any Default may be waived as follows:

Unless the securities resolution or supplemental indenture otherwise provides (in which event the applicable prospectus supplement will so state), the debt securities and the indentures may be amended with the consent of the holders of a majority in principal amount of the debt securities of all series affected voting as one class. Unless the securities resolution or supplemental indenture otherwise provides (in which event the applicable prospectus supplement will so state), a Default other than a Default in payment on a particular series may be waived with the consent of the holders of a majority in principal amount of the debt securities of the series. However, without the consent of each securityholder affected, no amendment or waiver may:

- change the fixed maturity of or the time for payment of interest on any debt security;

- reduce the principal, premium or interest payable with respect to any debt security;
- change the place of payment of a debt security or the currency in which the principal or interest on a debt security is payable;
- change the provisions for calculating any redemption or repurchase price with respect to any debt security;
- adversely affect any holder's right to receive payment of principal and interest or to institute suit for the enforcement of any such payment;
- reduce the amount of debt securities whose holders must consent to an amendment or waiver;
- make any change that materially adversely affects the right to convert any debt security;
- waive any Default in payment of principal of or interest on a debt security; or
- adversely affect any holder's rights with respect to redemption or repurchase of a debt security.

Without the consent of any securityholder, the indentures or the debt securities may be amended to:

- provide for assumption of our obligations to securityholders in the event of a merger or consolidation requiring such assumption;
- cure any ambiguity, omission, defect or inconsistency;
- conform the terms of the debt securities to the description thereof in the prospectus and prospectus supplement offering such debt securities;
- create a series and establish its terms;
- provide for the acceptance of appointment by a successor trustee or to facilitate the administration of the trusts by more than one trustee;
- provide for uncertificated or unregistered securities;
- make any change that does not adversely affect the rights of any securityholder;
- add to our covenants; or
- make any other change to the indentures so long as no debt securities are outstanding.

#### **Conversion Rights**

Any securities resolution or supplemental indenture establishing a series of debt securities may provide that the debt securities of such series will be convertible at the option of the holders thereof into or for our common stock or other equity or debt instruments. The securities resolution or supplemental indenture may establish, among other things, (1) the number or amount of shares of common stock or other equity or debt instruments for which \$1,000 aggregate principal amount of the debt securities of the series is convertible, as may be adjusted pursuant to the terms of the relevant indenture and the securities resolution; and (2) provisions for adjustments to the conversion rate and limitations upon exercise of the conversion right. The indentures provide that we will not be required to make an adjustment in the conversion rate unless the adjustment would require a cumulative change of at least 1% in the conversion rate. However, we will carry forward any adjustments that are less than 1% of the conversion rate and take them into account in any subsequent adjustment of the conversion rate.

## Legal Defeasance and Covenant Defeasance

Debt securities of a series may be defeased in accordance with their terms and, unless the securities resolution or supplemental indenture establishing the terms of the series otherwise provides, as set forth below. We at any time may terminate as to a series all of our obligations (except for certain obligations, including obligations with respect to the defeasance trust and obligations to register the transfer or exchange of a debt security, to replace destroyed, lost or stolen debt securities and coupons and to maintain paying agencies in respect of the debt securities) with respect to the debt securities of the series and any related coupons and the relevant indenture, which we refer to as legal defeasance. We at any time may terminate as to a series our obligations with respect to any restrictive covenants which may be applicable to a particular series, which we refer to as covenant defeasance.

We may exercise our legal defeasance option notwithstanding our prior exercise of our covenant defeasance option. If we exercise our legal defeasance option, a series may not be accelerated because of an Event of Default. If we exercise our covenant defeasance option, a series may not be accelerated by reference to any covenant which may be applicable to a series.

To exercise either defeasance option as to a series, we must (1) irrevocably deposit in trust with the trustee (or another trustee) money or U.S. Government Obligations (as defined below), deliver a certificate from a nationally recognized firm of independent accountants expressing their opinion that the payments of principal and interest when due on the deposited U.S. Government Obligations, without reinvestment, plus any deposited money without investment will provide cash at such times and in such amounts as will be sufficient to pay the principal and interest when due on all debt securities of such series to maturity or redemption, as the case may be; and (2) comply with certain other conditions. In particular, we must obtain an opinion of tax counsel that the defeasance will not result in recognition of any gain or loss to holders for federal income tax purposes.

“U.S. Government Obligations” means direct obligations of the United States or any agency or instrumentality of the United States, the payment of which is unconditionally guaranteed by the United States, which, in either case, have the full faith and credit of the United States pledged for payment and which are not callable at the issuer’s option, or certificates representing an ownership interest in such obligations.

## Regarding the Trustee

Unless otherwise indicated in a prospectus supplement, the trustee will also act as depository of funds, transfer agent, paying agent and conversion agent, as applicable, with respect to the debt securities. In certain circumstances, we or the securityholders may remove the trustee as the trustee under a given indenture. The indenture trustee may also provide additional unrelated services to us as a depository of funds, registrar, trustee and similar services.

## Governing Law

The indentures and the debt securities will be governed by New York law, except to the extent that the Trust Indenture Act of 1939 is applicable.

## DESCRIPTION OF SUBSCRIPTION RIGHTS

We may issue subscription rights to purchase our common stock or debt securities. These subscription rights may be offered independently or together with any other security offered hereby and may or may not be transferable by the stockholder receiving the subscription rights in such offering. In connection with any offering of subscription rights, we may enter into a standby arrangement with one or more underwriters or other purchasers pursuant to which the underwriters or other purchasers may be required to purchase any securities remaining unsubscribed for after such offering.

The prospectus supplement relating to any subscription rights we offer, if any, will, to the extent applicable, include specific terms relating to the offering, including some or all of the following:

- the price, if any, for the subscription rights;

- the exercise price payable for our common stock or debt securities upon the exercise of the subscription rights;
- the number of subscription rights to be issued to each stockholder;
- the number and terms of our common stock or debt securities which may be purchased per each subscription right;
- the extent to which the subscription rights are transferable;
- any other terms of the subscription rights, including the terms, procedures and limitations relating to the exchange and exercise of the subscription rights;
- the date on which the right to exercise the subscription rights shall commence, and the date on which the subscription rights shall expire;
- the extent to which the subscription rights may include an over-subscription privilege with respect to unsubscribed securities or an over-allotment privilege to the extent the securities are fully subscribed; and
- if applicable, the material terms of any standby underwriting or purchase arrangement which may be entered into by us in connection with the offering of subscription rights.

#### **DESCRIPTION OF UNITS**

We may issue units comprised of one or more of the other securities described in this prospectus 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 (but, to the extent convertible securities are included in the units, the holder of the units will be deemed the holder of the convertible securities and not the holder of the underlying securities). The unit agreement under which a unit is issued, if any, 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. The applicable prospectus supplement may describe:

- 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 for the issuance, payment, settlement, transfer or exchange of the units or of the securities comprising the units;
- the terms of the unit agreement governing the units;
- United States federal income tax considerations relevant to the units; and
- whether the units will be issued in fully registered global form.

This summary of certain general terms of units and any summary description of units in the applicable prospectus supplement do not purport to be complete and are qualified in their entirety by reference to all provisions of the applicable unit agreement and, if applicable, collateral arrangements and depositary arrangements relating to such units. The forms of the unit agreements and other documents relating to a particular issue of units will be filed with the SEC each time we issue units, and you should read those documents for provisions that may be important to you.

## FORMS OF SECURITIES

Each debt security and, to the extent applicable, warrant, subscription right and unit, will be represented either by a certificate issued in definitive form to a particular investor or by one or more global securities representing the entire issuance of securities. Certificated securities in definitive form and global securities will be issued in registered form. Definitive securities name you or your nominee as the owner of the security, and in order to transfer or exchange these securities or to receive payments other than interest or other interim payments, you or your nominee must physically deliver the securities to the trustee, registrar, paying agent or other agent, as applicable. Global securities name a depository or its nominee as the owner of the debt securities or warrants represented by these global securities. The depository maintains a computerized system that will reflect each investor's beneficial ownership of the securities through an account maintained by the investor with its broker/dealer, bank, trust company or other representative, as we explain more fully below.

### Global Securities

*Registered Global Securities.* We may issue the registered debt securities and, to the extent applicable, warrants, subscription rights and units, in the form of one or more fully registered global securities that will be deposited with a depository or its nominee identified in the applicable prospectus supplement and registered in the name of that depository or nominee. In those cases, one or more registered global securities will be issued in a denomination or aggregate denominations equal to the portion of the aggregate principal or face amount of the securities to be represented by registered global securities. Unless and until it is exchanged in whole for securities in definitive registered form, a registered global security may not be transferred except as a whole by and among the depository for the registered global security, the nominees of the depository or any successors of the depository or those nominees.

If not described below, any specific terms of the depository arrangement with respect to any securities to be represented by a registered global security will be described in the prospectus supplement relating to those securities. We anticipate that the following provisions will apply to all depository arrangements.

Ownership of beneficial interests in a registered global security will be limited to persons, called participants, that have accounts with the depository or persons that may hold interests through participants. Upon the issuance of a registered global security, the depository will credit, on its book-entry registration and transfer system, the participants' accounts with the respective principal or face amounts of the securities beneficially owned by the participants. Any dealers, underwriters or agents participating in the distribution of the securities will designate the accounts to be credited. Ownership of beneficial interests in a registered global security will be shown on, and the transfer of ownership interests will be effected only through, records maintained by the depository, with respect to interests of participants, and on the records of participants, with respect to interests of persons holding through participants. The laws of some states may require that some purchasers of securities take physical delivery of these securities in definitive form. These laws may impair your ability to own, transfer or pledge beneficial interests in registered global securities.

So long as the depository, or its nominee, is the registered owner of a registered global security, that depository or its nominee, as the case may be, will be considered the sole owner or holder of the securities represented by the registered global security for all purposes under the applicable indenture or warrant agreement. Except as described below, owners of beneficial interests in a registered global security will not be entitled to have the securities represented by the registered global security registered in their names, will not receive or be entitled to receive physical delivery of the securities in definitive form and will not be considered the owners or holders of the securities under the applicable indenture or warrant agreement. Accordingly, each person owning a beneficial interest in a registered global security must rely on the procedures of the depository for that registered global security and, if that person is not a participant, on the procedures of the participant through which the person owns its interest, to exercise any rights of a holder under the applicable indenture or warrant agreement. We understand that under existing industry practices, if we request any action of holders or if an owner of a beneficial interest in a registered global security desires to give or take any action that a holder is entitled to give or take under the applicable indenture or warrant agreement, the depository for the registered global security would authorize the participants holding the relevant beneficial interests to give or take that action, and the participants would authorize beneficial owners owning through them to give or take that action or would otherwise act upon the instructions of beneficial owners holding through them.

Principal, premium, if any, interest payments on debt securities and any payments to holders with respect to warrants represented by a registered global security registered in the name of a depository or its nominee will be made to the depository or its nominee, as the case may be, as the registered owner of the registered global security. None of the Company, the trustees, the warrant agents or any other agent of the Company, the trustees or the warrant agents will have any responsibility or liability for any aspect of the records relating to payments made on account of beneficial ownership interests in the registered global security or for maintaining, supervising or reviewing any records relating to those beneficial ownership interests.

We expect that the depository for any of the securities represented by a registered global security, upon receipt of any payment of principal, premium, interest or other distribution of underlying securities or other property to holders on that registered global security, will immediately credit participants' accounts in amounts proportionate to their respective beneficial interests in that registered global security as shown on the records of the depository. We also expect that payments by participants to owners of beneficial interests in a registered global security held through participants will be governed by standing customer instructions and customary practices, as is now the case with the securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of those participants.

If the depository for any of these securities represented by a registered global security is at any time unwilling or unable to continue as depository or ceases to be a clearing agency registered under the Securities Exchange Act of 1934, as amended, or the Exchange Act, and a successor depository registered as a clearing agency under the Exchange Act is not appointed by us within 90 days, we will issue securities in definitive form in exchange for the registered global security that had been held by the depository. Any securities issued in definitive form in exchange for a registered global security will be registered in the name or names that the depository gives to the relevant trustee or warrant agent or other relevant agent of ours or theirs. It is expected that the depository's instructions will be based upon directions received by the depository from participants with respect to ownership of beneficial interests in the registered global security that had been held by the depository.

## PLAN OF DISTRIBUTION

### Initial Offering and Sale of Securities

Unless otherwise set forth in a prospectus supplement accompanying this prospectus, we may sell the securities being offered hereby, from time to time, by one or more of the following methods:

- to or through underwriting syndicates represented by managing underwriters;
- through one or more underwriters without a syndicate for them to offer and sell to the public;
- through dealers or agents; and
- to investors directly in negotiated sales or in competitively bid transactions.

Offerings of securities covered by this prospectus also may be made into an existing trading market for those securities in transactions at other than a fixed price, either:

- on or through the facilities of the Nasdaq Capital Market or any other securities exchange or quotation or trading service on which those securities may be listed, quoted, or traded at the time of sale; and/or
- to or through a market maker other than on the securities exchanges or quotation or trading services set forth above.

Those at-the-market offerings, if any, will be conducted by underwriters acting as principal or agent of the Company, who may also be third-party sellers of securities as described above. The prospectus supplement with respect to the offered securities will set forth the terms of the offering of the offered securities, including:

- the name or names of any underwriters, dealers or agents;
- the purchase price of the offered securities and the proceeds to us from such sale;

- any underwriting discounts and commissions or agency fees and other items constituting underwriters' or agents' compensation;
- any initial public offering price and any discounts or concessions allowed or reallocated or paid to dealers;
- any securities exchange on which such offered securities may be listed; and
- any underwriter, agent or dealer involved in the offer and sale of any series of the securities.

The distribution of the securities may be effected from time to time in one or more transactions:

- at fixed prices, which may be changed;
- at market prices prevailing at the time of the sale;
- at varying prices determined at the time of sale; or
- at negotiated prices.

Each prospectus supplement will set forth the manner and terms of an offering of securities including:

- whether that offering is being made to underwriters, through agents or directly to the public;
- the rules and procedures for any auction or bidding process, if used;
- the securities' purchase price or initial public offering price; and
- the proceeds we anticipate from the sale of the securities, if any.

In addition, we may enter into derivative or hedging transactions with third parties, or sell securities not covered by this prospectus to third parties in privately negotiated transactions. The applicable prospectus supplement may indicate, in connection with such a transaction, that the third parties may sell securities covered by and pursuant to this prospectus and an applicable prospectus supplement. If so, the third party may use securities pledged by us or borrowed from us or others to settle such sales and may use securities received from us to close out any related short positions. We may also loan or pledge securities covered by this prospectus and an applicable prospectus supplement to third parties, who may sell the loaned securities or, in an event of default in the case of a pledge, sell the pledged securities pursuant to this prospectus and the applicable prospectus supplement.

#### **Sales Through Underwriters**

If underwriters are used in the sale of some or all of the securities covered by this prospectus, the underwriters will acquire the securities for their own account. The underwriters may resell the securities, either directly to the public or to securities dealers, at various times in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the time of sale. The obligations of the underwriters to purchase the securities will be subject to certain conditions. Unless indicated otherwise in a prospectus supplement, the underwriters will be obligated to purchase all the securities of the series offered if any of the securities are purchased.

Any initial public offering price and any concessions allowed or reallocated to dealers may be changed intermittently.

## **Sales Through Agents**

Unless otherwise indicated in the applicable prospectus supplement, when securities are sold through an agent, the designated agent will agree, for the period of its appointment as agent, to use specified efforts to sell the securities for our account and will receive commissions from us as will be set forth in the applicable prospectus supplement.

Securities bought in accordance with a redemption or repayment under their terms also may be offered and sold, if so indicated in the applicable prospectus supplement, in connection with a remarketing by one or more firms acting as principals for their own accounts or as agents for us. Any remarketing firm will be identified and the terms of its agreement, if any, with us and its compensation will be described in the prospectus supplement. Remarketing firms may be deemed to be underwriters in connection with the securities remarketed by them.

If so indicated in the applicable prospectus supplement, we may authorize agents, underwriters or dealers to solicit offers by certain specified institutions to purchase securities at a price set forth in the prospectus supplement pursuant to delayed delivery contracts providing for payment and delivery on a future date specified in the prospectus supplement. These contracts will be subject only to those conditions set forth in the applicable prospectus supplement, and the prospectus supplement will set forth the commissions payable for solicitation of these contracts.

## **Direct Sales**

We may also sell offered securities directly to institutional investors or others. In this case, no underwriters or agents would be involved. The terms of such sales will be described in the applicable prospectus supplement.

## **General Information**

Broker-dealers, agents or underwriters may receive compensation in the form of discounts, concessions or commissions from us and/or the purchasers of securities for whom such broker-dealers, agents or underwriters may act as agents or to whom they sell as principal, or both. This compensation to a particular broker-dealer might be in excess of customary commissions.

Underwriters, dealers and agents that participate in any distribution of the offered securities may be deemed “underwriters” within the meaning of the Securities Act of 1933, as amended, or the Securities Act, so any discounts or commissions they receive in connection with the distribution may be deemed to be underwriting compensation. Those underwriters and agents may be entitled, under their agreements with us, to indemnification by us against certain civil liabilities, including liabilities under the Securities Act, or to contribution by us to payments that they may be required to make in respect of those civil liabilities. Certain of those underwriters or agents may be customers of, engage in transactions with, or perform services for, us or our affiliates in the ordinary course of business. We will identify any underwriters or agents, and describe their compensation, in a prospectus supplement. Any institutional investors or others that purchase offered securities directly, and then resell the securities, may be deemed to be underwriters, and any discounts or commissions received by them from us and any profit on the resale of the securities by them may be deemed to be underwriting discounts and commissions under the Securities Act.

We will file a supplement to this prospectus, if required, pursuant to Rule 424(b) under the Securities Act, if we enter into any material arrangement with a broker, dealer, agent or underwriter for the sale of securities through a block trade, special offering, exchange distribution or secondary distribution or a purchase by a broker or dealer. Such prospectus supplement will disclose:

- the name of any participating broker, dealer, agent or underwriter;
- the number and type of securities involved;
- the price at which such securities were sold;
- any securities exchanges on which such securities may be listed;
- the commissions paid or discounts or concessions allowed to any such broker, dealer, agent or underwriter, where applicable; and
- other facts material to the transaction.

In order to facilitate the offering of certain securities under this prospectus or an applicable prospectus supplement, certain persons participating in the offering of those securities may engage in transactions that stabilize, maintain or otherwise affect the price of those securities during and after the offering of those securities. Specifically, if the applicable prospectus supplement permits, the underwriters of those securities may over-allot or otherwise create a short position in those securities for their own account by selling more of those securities than have been sold to them by us and may elect to cover any such short position by purchasing those securities in the open market.

In addition, the underwriters may stabilize or maintain the price of those securities by bidding for or purchasing those securities in the open market and may impose penalty bids, under which selling concessions allowed to syndicate members or other broker-dealers participating in the offering are reclaimed if securities previously distributed in the offering are repurchased in connection with stabilization transactions or otherwise. 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. The imposition of a penalty bid may also affect the price of securities to the extent that it discourages resales of the securities. No representation is made as to the magnitude or effect of any such stabilization or other transactions. Such transactions, if commenced, may be discontinued at any time.

In order to comply with the securities laws of certain states, if applicable, the securities must be sold in such jurisdictions only through registered or licensed brokers or dealers. In addition, in certain states the securities may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

Rule 15c6-1 under the Exchange Act generally requires that trades in the secondary market settle in two business days, unless the parties to any such trade expressly agree otherwise. Your prospectus supplement may provide that the original issue date for your securities may be more than two scheduled business days after the trade date for your securities. Accordingly, in such a case, if you wish to trade securities on any date prior to the second business day before the original issue date for your securities, you will be required, by virtue of the fact that your securities initially are expected to settle in more than two scheduled business days after the trade date for your securities, to make alternative settlement arrangements to prevent a failed settlement.

This prospectus, any applicable prospectus supplement and any applicable pricing supplement in electronic format may be made available on the Internet sites of, or through other online services maintained by, us and/or one or more of the agents and/or dealers participating in an offering of securities, or by their affiliates. In those cases, prospective investors may be able to view offering terms online and, depending upon the particular agent or dealer, prospective investors may be allowed to place orders online.

Other than this prospectus, any applicable prospectus supplement and any applicable pricing supplement in electronic format, the information on our website or the website of any agent or dealer, and any information contained in any other website maintained by any agent or dealer:

- is not part of this prospectus, any applicable prospectus supplement or any applicable pricing supplement or the registration statement of which they form a part;
- has not been approved or endorsed by us or by any agent or dealer in its capacity as an agent or dealer, except, in each case, with respect to the respective website maintained by such entity; and
- should not be relied upon by investors.

There can be no assurance that we will sell all or any of the securities offered by this prospectus.

This prospectus may also be used in connection with any issuance of common stock or preferred stock upon exercise of a warrant if such issuance is not exempt from the registration requirements of the Securities Act.

In addition, we may issue the securities as a dividend or distribution or in a subscription rights offering to our existing securityholders. In some cases, we or dealers acting with us or on our behalf may also purchase securities and reoffer them to the public by one or more of the methods described above. This prospectus may be used in connection with any offering of our securities through any of these methods or other methods described in the applicable prospectus supplement.

## LEGAL MATTERS

Unless otherwise indicated in the applicable prospectus supplement, the validity of the securities offered hereby will be passed upon for us by Lowenstein Sandler LLP, Roseland, New Jersey. If the validity of the securities offered hereby in connection with offerings made pursuant to this prospectus are passed upon by counsel for the underwriters, dealers or agents, if any, such counsel will be named in the prospectus supplement relating to such offering.

## EXPERTS

The consolidated financial statements of Cancer Genetics, Inc. and subsidiaries as of December 31, 2019 and for the year ended December 31, 2019 have been audited by Marcum LLP, an independent registered public accounting firm, as stated in their report which is incorporated by reference herein, (which report includes an explanatory paragraph as to the Company's ability to continue as a going concern and a paragraph regarding other matters including 1) the audit of the restatement for discontinued operations, 2) a reverse stock-split and 3) change in accounting principle). Such financial statements have been incorporated by reference herein in reliance on the report of such firm, given upon their authority as experts in auditing and accounting.

The consolidated financial statements as of December 31, 2018 and for the year then ended have been audited by RSM US LLP, an independent registered public accounting firm, as stated in their report thereon (which report expresses an unqualified opinion on the financial statements, except for effects of the adjustments, if any, as might have been determined to be necessary had they been engaged to audit the Company's restatement for discontinued operations and a reverse stock-split and emphasis of matter paragraphs stating 1) they were not engaged to audit the restatement for discontinued operations and a reverse stock-split, 2) for substantial doubt about the Company's ability to continue as a going concern and 3) change in accounting principle), incorporated herein by reference, and have been incorporated in this Registration Statement in reliance upon such report and upon the authority of such firm as experts in accounting and auditing.

**DISCLOSURE OF COMMISSION POSITION  
ON INDEMNIFICATION FOR SECURITIES ACT LIABILITIES**

Section 145 of the DGCL provides that we may indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal or investigative (other than an action by us or in our right) by reason of the fact that he is or was our director, officer, employee or agent, or is or was serving at our request as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by him or her in connection with such action, suit or proceeding if he acted in good faith and in a manner he or she reasonably believed to be in or not opposed to our best interests, and, with respect to any criminal action or proceeding, had no reasonable cause to believe his or her conduct was unlawful. Section 145 further provides that we similarly may indemnify any such person serving in any such capacity who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by us or in our right to procure judgment in our favor, against expenses actually and reasonably incurred in connection with the defense or settlement of such action or suit if he or she acted in good faith and in a manner he reasonably believed to be in or not opposed to our best interests and except that no indemnification shall be made in respect of any claim, issue or matter as to which such person shall have been adjudged to be liable to us unless and only to the extent that the Delaware Court of Chancery or such other court in which such action or suit was brought shall determine upon application that, despite the adjudication of liability but in view of all the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or such other court shall deem proper.

Our certificate of incorporation, as amended, limits the liability of our directors to the fullest extent permitted by Delaware law. In addition, we have entered into indemnification agreements with certain of our directors and officers whereby we have agreed to indemnify those directors and officers to the fullest extent permitted by law, including indemnification against expenses and liabilities incurred in legal proceedings to which the director or officer was, or is threatened to be made, a party by reason of the fact that such director or officer is or was a director, officer, employee or agent of the Company, provided that such director or officer acted in good faith and in a manner that the director or officer reasonably believed to be in, or not opposed to, the best interests of the Company.

We have director and officer liability insurance to cover liabilities our directors and officers may incur in connection with their services to us, including matters arising under the Securities Act. Our certificate of incorporation and bylaws also provide that we will indemnify our directors and officers who, by reason of the fact that he or she is one of our officers or directors of our company, is involved in any action, suit or proceeding, whether civil, criminal, administrative or investigative, related to their board role with the company.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to our directors, officers and controlling persons pursuant to the foregoing provisions, or otherwise, we have been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, we will, unless in the opinion of our counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by us is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

## ADDITIONAL INFORMATION

This prospectus is part of a Registration Statement on Form S-3 that we have filed with the SEC relating to the shares of our securities being offered hereby. This prospectus does not contain all of the information in the Registration Statement and its exhibits. The Registration Statement, its exhibits and the documents incorporated by reference in this prospectus and their exhibits, all contain information that is material to the offering of the securities hereby. Whenever a reference is made in this prospectus to any of our contracts or other documents, the reference may not be complete. You should refer to the exhibits that are a part of the Registration Statement in order to review a copy of the contract or documents. The Registration Statement and the exhibits are available at the SEC's Public Reference Room or through its website.

We file annual, quarterly and current reports, proxy statements and other information with the SEC. The SEC maintains an Internet site at <http://www.sec.gov> that contains reports, proxy and information statements, and other information regarding issuers, such as us, that file electronically with the SEC. Additionally, you may access our filings with the SEC through our website at <http://www.cancergenetics.com>. We have included our website address as an inactive textual reference only and our website and the information contained on, or that can be accessed through, our website will not be deemed to be incorporated by reference in, and are not considered part of, this prospectus.

We will provide you without charge, upon your oral or written request, with an electronic or paper copy of any or all reports, proxy statements and other documents we file with the SEC, as well as any or all of the documents incorporated by reference in this prospectus (other than exhibits to such documents unless such exhibits are specifically incorporated by reference into such documents). Requests for such copies should be directed to:

Cancer Genetics, Inc.  
201 Routh 17 North, 2<sup>nd</sup> Floor  
Rutherford, NJ 07070  
Telephone number: (201) 528-9200

You should rely only on the information in this prospectus and the additional information described above and under the heading "Incorporation of Certain Information by Reference" below. We have not authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely upon it. We are not making an offer to sell these securities in any jurisdiction where such offer or sale is not permitted. You should assume that the information in this prospectus was accurate on the date of the front cover of this prospectus only. Our business, financial condition, results of operations and prospects may have changed since that date.

## INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to “incorporate by reference” information that we file with it into this prospectus, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is an important part of this prospectus. The information incorporated by reference is considered to be a part of this prospectus, and information that we file later with the SEC will automatically update and supersede information contained in this prospectus and any accompanying prospectus supplement.

We incorporate by reference the documents listed below that we have previously filed with the SEC:

- our Annual Report on Form 10-K for the year ended December 31, 2019, filed with the SEC on May 29, 2020;
- our Quarterly Report on Form 10-Q for the quarter ended March 31, 2020, filed with the SEC on June 24, 2020;
- our Current Reports on Form 8-K filed with the SEC on February 27, 2020, March 30, 2020, May 14, 2020 and June 12, 2020 (other than any portions thereof deemed furnished and not filed); and
- the description of our common stock, par value \$0.0001 per share, contained in our Form 8-A filed on August 12, 2013, including any amendment or report filed for the purpose of updating such description.

All reports and other documents that we file with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act after the date of the initial registration statement and prior to effectiveness of the registration statement, and after the date of this prospectus but before the termination of the offering of the securities hereunder will also be considered to be incorporated by reference into this prospectus from the date of the filing of these reports and documents, and will supersede the information herein; provided, however, that all reports, exhibits and other information that we “furnish” to the SEC will not be considered incorporated by reference into this prospectus. We undertake to provide without charge to each person (including any beneficial owner) who receives a copy of this prospectus, upon written or oral request, a copy of all of the preceding documents that are incorporated by reference (other than exhibits, unless the exhibits are specifically incorporated by reference into these documents). You may request a copy of these materials in the manner set forth under the heading “Additional Information,” above.



**CANCER GENETICS, INC.**

**Up to \$2,400,000 of Common Stock**

**PROSPECTUS SUPPLEMENT**  
December 2, 2020

**H.C. Wainwright & Co.**

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