UNITED STATES SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

Amendment No. 7

to

FORM S-1

REGISTRATION STATEMENT UNDER THE SECURITIES ACT OF 1933

NewLink Genetics Corporation

(Exact name of registrant as specified in its charter)

Delaware(State or other jurisdiction of incorporation or organization)

541700 (Primary Standard Industrial Classification Code Number)

42-1491350 (I.R.S. Employer Identification Number)

2503 South Loop Drive Ames, IA 50010 (515) 296-5555 (Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

> CHARLES J. LINK, JR. Chief Executive Officer NewLink Genetics Corporation 2503 South Loop Drive Ames, IA 50010 (515) 296-5555

 $(Name, address, including \ zip\ code, and\ telephone\ number, including\ area\ code, of\ agent\ for\ service)$

Copies to:

James C.T. Linfield Brent D. Fassett Cooley LLP 380 Interlocken Crescent Broomfield, CO 80021 (720) 566-4000 Geoffrey E. Liebmann Cahill Gordon & Reindel LLP Eighty Pine Street New York, NY 10005 (212) 701-3000

Approximate date of commencement of proposed sale to the public: As soon as practicable after the effective date of this registration statement

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, check the following box. o

If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(d) under the Securities Act, check the following box and list the Securities Act registration number of the earlier effective registration statement for the same offering.

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" in Rule 12b-2 under the Securities Exchange Act of 1934. (Check one):

 $\text{Large Accelerated Filer o} \qquad \qquad \text{Accelerated Filer o} \qquad \qquad \text{Non-accelerated Filer} \boxtimes \qquad \qquad \text{Smaller Reporting Company o}$

CALCULATION OF REGISTRATION FEE

Title of Each Class of Securities to be Registered	Proposed Maximum Aggregate Offering Price(1)	Amount of Registration Fee(2)
Common Stock, \$0.01 par value per share	\$86,250,000	\$6,150.00(3)

- (1) Estimated solely for the purpose of calculating the registration fee pursuant to Rule 457(o) under the Securities Act.
- (2) Calculated pursuant to Rule 457(o) based on an estimate of the proposed maximum aggregate offering price.
- (3) Previously paid.

The registrant hereby amends this Registration Statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment that specifically states that this Registration Statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the registration statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.

PART II INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. Other expenses of issuance and distribution.

The following table sets forth all costs and expenses, other than underwriting discounts and commissions, paid or payable by us in connection with the sale of the common stock being registered. All amounts shown are estimates except for the Securities Exchange Commission, or SEC, registration fee, the Financial Industry Regulatory Authority, or FINRA, filing fee and the listing fee for the NASDAQ Global Market.

	 nount Paid or to be Paid
SEC registration fee	\$ 6,150
FINRA filing fee	9,125
The NASDAQ Global Market listing fee	125,000
Blue sky qualification fees and expenses	5,000
Printing expenses	375,000
Legal fees and expenses	1,500,000
Accounting fees and expenses	825,000
Transfer agent and registrar fees and expenses	5,000
Miscellaneous expenses	24,725
Total	\$ 2,875,000

Item 14. Indemnification of directors and officers.

We are incorporated under the laws of the State of Delaware. Section 145 of the Delaware General Corporation Law provides that a Delaware corporation may indemnify any persons who are, or are threatened to be made, parties to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of such corporation), by reason of the fact that such person was an officer, director, employee or agent of such corporation, or is or was serving at the request of such person as an officer, director, employee or agent of another corporation or enterprise. The indemnity may include expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such action, suit or proceeding, provided that such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the corporation's best interests and, with respect to any criminal action or proceeding, had no reasonable cause to believe that his or her conduct was illegal. A Delaware corporation may indemnify any persons who are, or are threatened to be made, a party to any threatened, pending or completed action or suit by or in the right of the corporation by reason of the fact that such person was a director, officer, employee or agent of such corporation, or is or was serving at the request of such corporation as a director, officer, employee or agent of another corporation or enterprise. The indemnity may include expenses (including attorneys' fees) actually and reasonably incurred by such person in connection with the defense or settlement of such action or suit provided such person acted in good faith and in a manner he or she reasonably believed to be in or not opposed to the corporation's best interests except that no indemnification is permitted without judicial approval if the officer or director is adjudged to be liable to the corporation. Where an of

become effective upon the completion of this offering, provide for the indemnification of our directors and officers to the fullest extent permitted under the Delaware General Corporation Law.

Section 102(b)(7) of the Delaware General Corporation Law permits a corporation to provide in its certificate of incorporation that a director of the corporation shall not be personally liable to the corporation or its stockholders for monetary damages for breach of fiduciary duties as a director, except for liability for any:

- transaction from which the director derives an improper personal benefit;
- act or omission not in good faith or that involves intentional misconduct or a knowing violation of law;
- unlawful payment of dividends or redemption of shares; or
- breach of a director's duty of loyalty to the corporation or its stockholders.

Our amended and restated certificate of incorporation and amended and restated bylaws include such a provision. Expenses incurred by any officer or director in defending any such action, suit or proceeding in advance of its final disposition shall be paid by us upon delivery to us of an undertaking, by or on behalf of such director or officer, to repay all amounts so advanced if it shall ultimately be determined that such director or officer is not entitled to be indemnified by us.

Section 174 of the Delaware General Corporation Law provides, among other things, that a director who willfully or negligently approves of an unlawful payment of dividends or an unlawful stock purchase or redemption may be held liable for such actions. A director who was either absent when the unlawful actions were approved, or dissented at the time, may avoid liability by causing his or her dissent to such actions to be entered in the books containing minutes of the meetings of the Board of Directors at the time such action occurred or immediately after such absent director receives notice of the unlawful acts.

As permitted by the Delaware General Corporation Law, we have entered into indemnity agreements with each of our directors and executive officers, that require us to indemnify such persons against any and all expenses (including attorneys' fees), witness fees, damages, judgments, fines, settlements and other amounts incurred (including expenses of a derivative action) in connection with any action, suit or proceeding, whether actual or threatened, to which any such person may be made a party by reason of the fact that such person is or was a director, an officer or an employee of NewLink or any of its affiliated enterprises, provided that such person acted in good faith and in a manner such person reasonably believed to be in or not opposed to our best interests and, with respect to any criminal proceeding, had no reasonable cause to believe his or her conduct was unlawful. The indemnification agreements also set forth certain procedures that will apply in the event of a claim for indemnification thereunder.

At present, there is no pending litigation or proceeding involving any of our directors or executive officers as to which indemnification is required or permitted, and we are not aware of any threatened litigation or proceeding that may result in a claim for indemnification.

We have an insurance policy covering our officers and directors with respect to certain liabilities, including liabilities arising under the Securities Act of 1933, as amended, or the Securities Act, or otherwise.

We have entered into an underwriting agreement which provides that the underwriters are obligated, under some circumstances, to indemnify our directors, officers and controlling persons against specified liabilities, including liabilities under the Securities Act.

Reference is made to the following documents filed as exhibits to this registration statement regarding relevant indemnification provisions described above and elsewhere herein:

Exhibit Document	Number
Form of Underwriting Agreement	1.1
Form of Amended and Restated Certificate of Incorporation to be effective upon completion of this offering	3.2
Form of Amended and Restated Bylaws to be effective upon completion of this offering	3.4
Form of Indemnity Agreement	10.50

Item 15. Recent sales of unregistered securities.

The following list sets forth information regarding all securities sold by us in the three years preceding the filing of this Registration Statement:

- (1) Between February 8, 2008 and December 17, 2009, in connection with our Series C preferred stock financing, we issued and sold an aggregate of 6,000,000 shares of Series C preferred stock to 142 accredited investors at 33 closings, at a purchase price of \$5.00 per share, for aggregate consideration of \$30.0 million. Upon completion of this offering, these shares will convert into 2,879,162 shares of common stock.
- (2) On July 17, 2009, in connection with our Series D preferred stock financing, we issued and sold an aggregate of 1,500,000 shares of Series D preferred stock to one accredited investor at one closing, at a purchase price of \$5.00 per share, for aggregate consideration of \$7.5 million. Upon completion of this offering, these shares will convert into 719,791 shares of common stock.
- (3) Between December 1, 2010 and December 13, 2010, in connection with our Series E preferred stock financing, we issued and sold an aggregate of 248,320 shares of Series E preferred stock to 39 accredited investors at two closings, at a purchase price of \$31.25 per share, for aggregate consideration of \$7.8 million. Upon completion of this offering, these shares will convert into 829,947 shares of common stock.
- (4) On July 17, 2009, we issued a warrant to Midwest Oilseeds, Inc. to purchase an aggregate of 178,571 shares of our common stock, with an initial exercise price of \$15.12 per share. On October 7, 2010, this warrant was amended and on October 21, 2010 the warrant was exercised for 178,571 shares of common stock at an aggregate exercise price of \$2.0 million.
- (5) From October 30, 2000 to August 6, 2008, we granted stock options under our 2000 Equity Incentive Plan to purchase 808,168 shares of common stock (net of expirations and cancellations) to our employees, directors and consultants, having exercise prices ranging from \$0.53 to \$7.14 per share. Of these, options to purchase 226,229 shares of common stock have been exercised through December 31, 2010, for aggregate consideration of \$141,543, at exercise prices ranging from \$0.53 to \$3.68 per share. In addition, we granted stock awards for 18,470 shares of our common stock in exchange for services rendered.
- (6) From May 13, 2009 to December 9, 2010, we granted stock options under our 2009 Equity Incentive Plan to purchase 2,477,738 shares of common stock (net of expirations and cancellations) to our employees, directors and consultants, having exercise prices ranging from \$2.10 to \$7.16 per share. Of these, none of the options to purchase shares of common stock have been exercised through December 31, 2010.
- (7) From May 13, 2009 to December 4, 2009, we granted stock options under our 2009 Equity Incentive Plan to purchase 1,161,083 shares of common stock (net of expirations and cancellations) to Dr. Charles Link, having exercise prices ranging from \$2.10 to \$4.20 per share.

- Of these, none of the options to purchase shares of common stock have been exercised through December 31, 2010.
- (8) On September 3, 2010, we issued 23,810 shares of our common stock to Reconstitute, LLC, pursuant to the terms of a Termination Agreement by which we terminated a license agreement with Reconstitute. The stock was issued in consideration of Reconstitute's performance of certain provisions of the license agreement prior to termination and Reconstitute's agreement to terminate the license agreement.
- (9) On July 29, 2010, we issued 173,469 shares of our common stock to nine accredited investors pursuant to the July 21, 2005 purchase agreement with the shareholders of OncoRx Corporation. This issuance was the third and final installment of shares payable under the July 21, 2005 purchase agreement.
- (10) On January 7, 2011, and August 12, 2011, we issued 276,304 shares of our Series E preferred in connection with the acquisition of BioProtection Systems Corporation.
- (11) On June 20, 2011, we issued and sold to an investor an additional 160,000 shares of Series E preferred stock at a purchase price of \$31.25 per share, which resulted in gross proceeds of \$5.0 million.
- (12) On August 31, 2011, we issued 20,864 shares of our common stock as dividends on shares of our Series AA preferred stock.

The offers, sales and issuances of the securities described in paragraphs (1), (2), (3), (4), (7), (8), (9) and (10) were deemed to be exempt from registration under the Securities Act in reliance on Rule 506 of Regulation D in that the issuance of securities to the accredited investors did not involve a public offering. The recipients of securities in each of these transactions acquired the securities for investment only and not with a view to or for sale in connection with any distribution thereof and appropriate legends were affixed to the securities issued in these transactions. Each of the recipients of securities in these transactions was an accredited investor under Rule 501 of Regulation D.

The offers, sales and issuances of the securities described in paragraphs (5) and (6) were deemed to be exempt from registration under the Securities Act in reliance on Rule 701 in that the transactions were under compensatory benefit plans and contracts relating to compensation as provided under Rule 701. The recipients of such securities were our employees, directors or bona fide consultants and received the securities under our 2000 Equity Incentive Plan or 2009 Equity Incentive Plan. Appropriate legends were affixed to the securities issued in these transactions. Each of the recipients of securities in these transactions had adequate access, through employment, business or other relationships, to information about us.

Item 16. Exhibits and Financial Statement Schedules

EXHIBIT INDEX

Exhibit Number	Description
1.1(6)	Form of Underwriting Agreement
3.1(1)	Restated Certificate of Incorporation filed on November 23, 2010
3.2(6)	Form of Amended and Restated Certificate of Incorporation to be effective upon completion of this offering
3.3(1)	Bylaws, as currently in effect
3.4(6)	Form of Amended and Restated Bylaws to be effective upon completion of this offering

Exhibit Number	Description		
3.5(4)	Certificate of Amendment to Restated Certificate of Incorporation filed on September 15, 2011		
3.6(5)			
4.1(5)	<u>.</u>		
4.2(1)	Reference is made to Exhibits 3.1, 3.2, 3.3, 3.4, 3.5 and 3.6		
(4)			
5.1	Opinion of Cooley LLP		
10.1(6)	Form of Lock-up Agreement		
10.2†(1)	2000 Equity Incentive Plan		
10.3†(1)	Form of Stock Option Agreement under 2000 Equity Incentive Plan		
10.4†(1)	Form of Stock Option Grant Notice under 2000 Equity Incentive Plan		
10.5†(1)	Form of Stock Bonus Agreement under 2000 Equity Incentive Plan		
	Amended and Restated 2009 Equity Incentive Plan		
10.7†(1)	Form of Stock Option Agreement under 2009 Equity Incentive Plan		
10.8†(1)	Form of Stock Option Grant Notice under 2009 Equity Incentive Plan		
10.9†(1)	2010 Employee Stock Purchase Plan		
10.10†(6)	2010 Non-Employee Directors' Stock Award Plan		
	Form of Indemnity Agreement by and between the Registrant and its directors and executive officers		
10.12†(1)	Employment Agreement, dated as of December 6, 2010, by and between the Registrant and Charles J. Link, Jr.		
10.13†(1)	Employment Agreement, dated as of November 22, 2010, by and between the Registrant and Nicholas N.		
	Vahanian		
	Employment Agreement, dated as of June 26, 2008, by and between the Registrant and Gordon H. Link, Jr.		
, ,	Employment Agreement, dated as of November 22, 2010, by and between the Registrant and Gordon H. Link, Jr.		
	Employment Agreement, dated as of November 22, 2010, by and between the Registrant and Kenneth Lynn		
	Employment Agreement, dated as of November 22, 2010, by and between the Registrant and W. Jay Ramsey		
	Form of Employee Proprietary Information and Inventions Agreement		
	Promissory Note dated May 2, 2008 by and between the Registrant and Charles Link		
	Promissory Note dated April 18, 2000 by and between the Registrant and Nicholas Vahanian		
	Promissory Note dated August 20, 2008 by and between the Registrant and Nicholas Vahanian		
	Promissory Note dated July 2008 by and between the Registrant and Gordon Link		
	Amendment Agreement dated July 1, 2010 by and between the Registrant and Charles Link		
	Amendment Agreement dated July 1, 2010 by and between the Registrant and Nicholas Vahanian		
	Acknowledgment Agreement dated November 24, 2010 by and between the Registrant and Charles Link		
	Acknowledgment Agreement dated November 24, 2010 by and between the Registrant and Nicholas Vahanian		
	Acknowledgment Agreement dated November 24, 2010 by and between the Registrant and Gordon Link		
10.28T(2)	Acknowledgment Agreement dated November 24, 2010 by and between BioProtection Systems Corporation and		
	Charles Link		

Exhibit Number	Description
	Acknowledgment Agreement dated November 23, 2010 by and between BioProtection Systems Corporation and Nicholas Vahanian
10.30*(6)	License Agreement dated July 7, 2005 by and between the Registrant and Lankenau Institute for Medical Research
10.31*(6)	First Amendment to License Agreement dated May 22, 2006 by and between the Registrant and Lankenau Institute for Medical Research
10.32*(6)	Second Amendment to License Agreement September 11, 2007 by and between the Registrant and Lankenau Institute for Medical Research
10.33*(6)	Exclusive License Agreement executed December 21, 2007 by and between the Registrant and Lankenau Institute for Medical Research
10.34*(6)	Exclusive License Agreement effective April 23, 2009 by and between the Registrant and Lankenau Institute for Medical Research
10.35*(6)	License Agreement dated February 27, 2007 by and between the Registrant and University of British Columbia
	License Agreement dated October 13, 2004 by and between the Registrant and Drexel University
10.37*(6)	License Agreement dated August 2, 2001 by and between the Registrant and Central Iowa Health System
10.38*(6)	Letter of Intent for Cooperative Research and Development Agreement (CRADA #2166) dated May 7, 2007 by and between the Registrant and National Cancer Institute
10.39(4)	Amendment No. 1 to Letter of Intent for CRADA #2166 dated January 17, 2008 by and between the Registrant and National Cancer Institute
10.40(4)	Amendment No. 2 to Letter of Intent for CRADA #2166 dated July 7, 2008 by and between the Registrant and National Cancer Institute
10.41(4)	Amendment No. 3 to Letter of Intent for CRADA #2166 dated March 24, 2009 by and between the Registrant and National Cancer Institute
10.42(4)	Amendment No. 4 to Letter of Intent for CRADA #2166 dated October 28, 2009 by and between the Registrant and National Cancer Institute
10.43(4)	Amendment No. 5 to Letter of Intent for CRADA #2166 dated December 16, 2009 by and between the Registrant and National Cancer Institute
10.44(4)	Amendment No. 6 to Letter of Intent for CRADA #2166 dated June 29, 2010 by and between the Registrant and National Cancer Institute
10.45(4)	Amendment No. 7 to Letter of Intent for CRADA #2166 dated November 26, 2010 by and between the Registrant and National Cancer Institute
10.46*(6)	License Agreement dated September 13, 2005 by and between the Registrant and Medical College of Georgia Research Institute, Inc.
10.47*(6)	First Amendment to License Agreement dated April 27, 2006 by and between the Registrant and Medical College of Georgia Research Institute, Inc.
10.48*(6)	Second Amendment to License Agreement dated April 27, 2006 by and between the Registrant and Medical College of Georgia Research Institute, Inc.
10.49*(6)	Third Amendment to License Agreement dated February 13, 2007 by and between the Registrant and Medical
10.50*(6)	College of Georgia Research Institute, Inc. Patent License Agreement dated March 1, 2006 by and between the Registrant and Bresagen Xenograft Maybring Ltd.
10.51(1)	Marketing Ltd. Lease dated September 1, 2000 by and between the Registrant and Iowa State University Research Park Corporation
10.52(1)	Sublease Agreement effective February 1, 2001 by and between the Registrant and Iowa State Innovation System
10.53(1)	Memorandum of Agreement dated December 6, 2005 by and between the Registrant and Iowa State University Research Park Corporation
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Exhibit Number	Description
10.54(1)	Description Memorandum of Agreement dated April 13, 2006 by and between the Registrant and Iowa State University
10.0 .(1)	Research Park Corporation
10.55(1)	Memorandum of Agreement dated February 20, 2008 by and between the Registrant and Iowa State University
. ,	Research Park Corporation
10.56(1)	Memorandum of Agreement dated May 1, 2009 by and between the Registrant and Iowa State University
	Research Park Corporation
10.57(1)	Memorandum of Agreement dated March 24, 2010 by and between the Registrant and Iowa State University Research Park Corporation
10.58(1)	Lease dated September 30, 2009 by and between the Registrant and Iowa State University Research Park
10.50(1)	Corporation
10.59(1)	Promissory Note executed in 2009 by and between the Registrant and Iowa State University Research Park
	Corporation
10.60(1)	Forgivable Loan Agreement dated March 10, 2010 by and between the Registrant and City of Ames, Iowa
10.61(1)	Iowa Values Fund Agreement dated March 18, 2005 by and between the Registrant and Iowa Department of
	Economic Development
10.62(1)	Contract Amendment dated August 19, 2010 between the Registrant and Iowa Department of Economic
10.00(1)	Development
10.63(1)	Master Contract dated December 29, 2005 by and between the Registrant and Iowa Department of Economic
10.64(1)	Development Contract Amondment detect April 21, 2000 between the Registrent and Iova Department of Economic
10.64(1)	Contract Amendment dated April 21, 2009 between the Registrant and Iowa Department of Economic Development
10.65(1)	Contract Amendment dated August 19, 2010 between the Registrant and Iowa Department of Economic
10.05(1)	Development
10 66*(6)	Exclusive License Agreement dated July 29, 2008 by and between the Regents of the University of California and
10,00 (0)	BioProtection Systems Corporation
10.67*(6)	Sole License Agreement executed May 4, 2010 by and between Her Majesty the Queen in Right of Canada and
. ,	BioProtection Systems Corporation
10.68(2)	Contract No. W911NF-08-C-0044 dated May 5, 2008 by and between BioProtection Systems Corporation and the
	United States Department of Defense
10.69(2)	Amendment to Contract No. W911NF-08-C-0044 dated February 12, 2009 by and between BioProtection
	Systems Corporation and the United States Department of Defense
10.70*(6)	Contract No. HDTRA1-09-C-0014 dated September 25, 2009 by and between BioProtection Systems
10 51(0)	Corporation and the United States Department of Defense
10.71(2)	Contract No. W911NF-09-C-0072 dated July 31, 2009 by and between BioProtection Systems Corporation and
10.72(2)	the United States Department of Defense
10.72(2)	Amendment to Contract No. W911NF-09-C-0072 dated April 21, 2010 by and between BioProtection Systems Corporation and the United States Department of Defense
10.73(2)	Grant Number 5U01AI066327-05 issued August 26, 2009 by and between BioProtection Systems Corporation
10.75(2)	and the National Institutes of Health
10.74(2)	Grant Number 1R43AI084350-01A1 issued April 6, 2010 by and between BioProtection Systems Corporation
10.7 1(2)	and the National Institutes of Health
10.75(2)	Agreement and Plan of Merger dated December 1, 2010 by and between the Registrant, BPS Merger Sub, Inc.,
` /	BioProtection Systems Corporation and BPS Stockholder Representative, LLC
10.76(2)	Certificate of Merger of BPS Merger Sub, Inc. into BioProtection Systems Corporation filed on January 7, 2011
10.77(3)	Contract Amendment effective February 17, 2011 between the Registrant and Iowa Department of Economic
	Development

Exhibit Number	Description
10.78(3)	Contract Amendment effective February 17, 2011 between the Registrant and Iowa Department of Economic
	Development
10.79(4)	Amendment No. 8 to Letter of Intent for CRADA #2166 dated June 2, 2011 by and between the Registrant and
	National Cancer Institute
10.80(4)	Amendment of Contract No. HDTRA1-09-C-0014 dated September 20, 2011 by and between BioProtection
	Systems Corporation and the United States Department of Defense
10.81(4)	Grant Number 5R43AI084350-02 issued March 24, 2011 by and between BioProtection Systems Corporation and
	the National Institutes of Health
10.82(5)	Lease dated August 10, 2005 by and between BioProtection Systems Corporation and Iowa State University
	Research Park Corporation
10.83(5)	Memorandum of Agreement dated September 29, 2011 by and between BioProtection Systems Corporation and
	Iowa State University Research Park Corporation
10.84(5)	Memorandum of Agreement dated September 29, 2011 by and between the Registrant and Iowa State University
	Research Park Corporation
21.1(1)	Subsidiary Information
23.1(5)	Consent of KPMG LLP, independent registered public accounting firm
23.2(2)	Consent of the Mentor Group, Inc., valuation specialist
23.3	Consent of Cooley LLP (included in Exhibit 5.1)
24.1(1)	Power of Attorney
24.2(3)	Power of Attorney
24.3(6)	Power of Attorney

- (1) Filed with the Registrant's Registration Statement on Form S-1 on December 21, 2010
- (2) Filed with the Registrant's Amendment No. 1 to the Registration Statement on Form S-1 on February 28, 2011
- (3) Filed with the Registrant's Amendment No. 3 to the Registration Statement on Form S-1 on September 14, 2011
- (4) Filed with the Registrant's Amendment No. 4 to the Registration Statement on Form S-1 on October 4, 2011
- (5) Filed with the Registrant's Amendment No. 5 to the Registration Statement on Form S-1 on October 26, 2011
- (6) Filed with the Registrant's Amendment No. 6 to the Registration Statement on Form S-1 on November 8, 2011
- † Indicates management contract or compensatory plan
- * Indicates confidential treatment has been requested with respect to specific portions of this exhibit. Omitted portions have been filed with the Securities and Exchange Commission pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

(b) Financial statement schedule.

No financial statement schedules are provided because the information called for is not required or is shown either in the financial statements or notes.

Item 17. Undertakings.

The undersigned Registrant hereby undertakes to provide to the underwriter at the closing specified in the underwriting agreement certificates in such denominations and registered in such names as required by the underwriter to permit prompt delivery to each purchaser.

Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has 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, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

The undersigned Registrant hereby undertakes that:

- (1) For purposes of determining any liability under the Securities Act, the information omitted from the form of prospectus filed as part of this registration statement in reliance upon Rule 430A and contained in a form of prospectus filed by the Registrant pursuant to Rule 424(b)(1) or (4) or 497(h) under the Securities Act shall be deemed to be part of this Registration Statement as of the time it was declared effective.
- (2) For the purpose of determining any liability under the Securities Act, each post-effective amendment that contains a form of prospectus shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this Amendment No. 7 to the Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Ames, State of Iowa, on November 10, 2011.

NEWLINK GENETICS CORPORATION

By: /s/ CHARLES J. LINK, JR.

Charles J. Link, Jr.

Chief Executive Officer, Chairman of the Board

Pursuant to the requirements of the Securities Act of 1933, this Amendment No. 7 to the Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

	Signature	<u>Title</u>	<u>Date</u>
	/s/ CHARLES J. LINK, JR.	Chief Executive Officer, Chairman of the Board and Director (<i>Principal Executive Officer</i>)	November 10, 2011
	Charles J. Link, Jr.		
	/s/ GORDON H. LINK, JR.	Chief Financial Officer and Secretary (<i>Principal Financial and Accounting Officer</i>)	November 10, 2011
	Gordon H. Link, Jr.		
	*	Director	November 10, 2011
	Thomas A. Raffin		
	*	Director	November 10, 2011
	Ernest J. Talarico, III	-	
	*	Director	November 10, 2011
	David J. Lundquist		
	*	Director	November 10, 2011
	Sarah Alexander		
	*	Director	November 10, 2011
	Joseph Saluri		
	*	Director	November 10, 2011
	Paul R. Edick		
*By:	/s/ GORDON H. LINK, JR.	<u></u>	
	Gordon H. Link, Jr., Attorney-in-Fact		
		II-10	

QuickLinks

PART II INFORMATION NOT REQUIRED IN PROSPECTUS

Item 13. Other expenses of issuance and distribution.
Item 14. Indemnification of directors and officers.
Item 15. Recent sales of unregistered securities.
Item 16. Exhibits and Financial Statement Schedules

EXHIBIT INDEX

Item 17. Undertakings.

SIGNATURES

Exhibit 5.1

James C. T. Linfield (720) 566-4010 linfieldjct@cooley.com

November 10, 2011

NewLink Genetics Corporation 2503 South Loop Drive, Suite 5100 Ames, IA 50010

Ladies and Gentlemen:

You have requested our opinion with respect to certain matters in connection with the filing by NewLink Genetics Corporation, a Delaware corporation, (the "Company") of a Registration Statement (No. 333-171300) on Form S-1 (the "Registration Statement") with the Securities and Exchange Commission, including a related prospectus filed with the Registration Statement (the "Prospectus"), covering an underwritten public offering of shares of the Company's common stock, par value \$0.01, including shares of common stock that may be sold pursuant to the exercise of an over-allotment option (together, the "Shares"), such Shares to be sold pursuant to the Registration Statement at an offering price consistent with that described in the Instruction to Paragraph (a) of Rule 430A under the Securities Act of 1933, as amended.

In connection with this opinion, we have examined and relied upon the Registration Statement and Prospectus, the Company's Amended and Restated Certificate of Incorporation, as amended, and Amended and Restated Bylaws and its forms of Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws to be effective in connection with the closing of the offering of the Shares in accordance with the Registration Statement and Prospectus, and the originals or copies certified to our satisfaction of such records, documents, certificates, memoranda and other instruments as in our judgment are necessary or appropriate to enable us to render the opinion expressed below. We have assumed the genuineness and authenticity of all documents submitted to us as originals, and the conformity to originals of all documents submitted to us as copies, the accuracy, completeness and authenticity of certificates of public officials, and the due execution and delivery of all documents, where due execution and delivery are a prerequisite to the effectiveness thereof. As to certain factual matters, we have relied upon a certificate of officers of the Company and have not sought independently to verify such matters. Our opinion is expressed only with respect to the General Corporation Law of the State of Delaware.

On the basis of the foregoing, and in reliance thereon, we are of the opinion that the Shares, when sold and issued in accordance with the Registration Statement and the Prospectus will be validly issued, fully paid and nonassessable.

We consent to the reference to our firm under the caption "Legal Matters" in the Prospectus and to the filing of this opinion as an exhibit to the Registration Statement.

Very truly yours,

COOLEY LLP

By: /s/ James C.T. Linfield

James C.T. Linfield, Partner

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Exhibit 5.1