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## Section 1: SC 13D (SCHEDULE 13D 2-24-17)

UNITED STATES

SECURITIES AND EXCHANGE COMMISSION  
WASHINGTON, D.C. 20549

### SCHEDULE 13D

Under the Securities Exchange Act of 1934

Miragen Therapeutics, Inc.  
(Name of Issuer)

Miragen Therapeutics, Inc.  
(Title of Class of Securities)

60463E103  
(CUSIP Number)

Kyle A. Lefkoff  
1941 Pearl Street, Suite 300  
Boulder, Colorado 80302  
303) 444-6950  
(Name, Address and Telephone Number of Person  
Authorized to Receive Notices and Communications)

February 13, 2017  
(Date of Event Which Requires Filing of This Statement)

If the filing person has previously filed a statement on Schedule 13G to report the acquisition that is the subject of this Schedule 13D, and is filing this schedule because of Rules 13d-1(e), 13d-1(f) or 13d-1(g), check the following box.

The information required on the remainder of this cover page shall not be deemed to be "filed" for the purpose of Section 18 of the Securities Exchange Act of 1934 ("Act") or otherwise subject to the liabilities of that section of the Act but shall be subject to all other provisions of the Act (however, *see* the Notes).

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**1** Name of Reporting Person/  
I.R.S. Identification No. of Above Person (Entities Only) Boulder Ventures V, L.P.  
01-0893942

**2** Check the Appropriate Box if a Member of a Group  
(a)   
(b)

**3** SEC USE ONLY SEC Use Only

**4** Source of Funds (*See Instructions*) OO

**5** Check if Disclosure of Legal Proceedings is Required Pursuant to Items 2(d) or 2(e)

**6** Citizenship or Place of Organization  
Delaware

<b>Number of Shares Beneficially Owned by Each Reporting Person With</b>	<b>7</b>	Sole Voting Power	1,607,437
	<b>8</b>	Shared Voting Power	0
	<b>9</b>	Sole Dispositive Power	1,607,437
	<b>10</b>	Shared Dispositive Power	0

**11** Aggregate Amount Beneficially Owned by Each Reporting Person  
1,607,437

**12** Check if the Aggregate Amount in Row (11) Excludes Certain Shares   
(*See Instructions*)

**13** Percent of Class Represented by Amount in Row (11) 7.5%\*

**14** Type of Reporting Person PN

\* The denominator is based on the approximately 21.3 million shares of the common stock reported by the Issuer to be issued and outstanding as of February 13, 2017, in its Current Report on Form 8-K, as filed with the Securities and Exchange Commission on February 13, 2017.

**1** Name of Reporting Person/  
I.R.S. Identification No. of Above Person (Entities Only) BV Partners V, L.L.C.  
01-00893943

**2** Check the Appropriate Box if a Member of a Group  
(a)   
(b)

**3** SEC USE ONLY SEC Use Only

**4** Source of Funds (*See Instructions*) OO

**5** Check if Disclosure of Legal Proceedings is Required Pursuant to Items 2(d) or 2(e)

**6** Citizenship or Place of Organization Delaware

<b>Number of Shares Beneficially Owned by Each Reporting Person With</b>	<b>7</b>	Sole Voting Power	1,607,437
	<b>8</b>	Shared Voting Power	0
	<b>9</b>	Sole Dispositive Power	1,607,437
	<b>10</b>	Shared Dispositive Power	0

**11** Aggregate Amount Beneficially Owned by Each Reporting Person  
1,607,437

**12** Check if the Aggregate Amount in Row (11) Excludes Certain Shares   
(*See Instructions*)

**13** Percent of Class Represented by Amount in Row (11) 7.5%\*

**14** Type of Reporting Person OO

\* The denominator is based on the approximately 21.3 million shares of the common stock reported by the Issuer to be issued and outstanding as of February 13, 2017, in its Current Report on Form 8-K, as filed with the Securities and Exchange Commission on February 13, 2017.

**1** Name of Reporting Person/  
I.R.S. Identification No. of Above Person (Entities Only) Boulder Ventures VI, L.P.  
46-3860105

**2** Check the Appropriate Box if a Member of a Group

(a)

(b)

**3** SEC USE ONLY SEC Use Only

**4** Source of Funds (See Instructions) OO

**5** Check if Disclosure of Legal Proceedings is Required Pursuant to Items 2(d) or 2(e)

**6** Citizenship or Place of Organization

Delaware

<b>Number of Shares Beneficially Owned by Each Reporting Person With</b>	<b>7</b>	Sole Voting Power	500,433
	<b>8</b>	Shared Voting Power	0
	<b>9</b>	Sole Dispositive Power	500,433
	<b>10</b>	Shared Dispositive Power	0

**11** Aggregate Amount Beneficially Owned by Each Reporting Person  
500,433

**12** Check if the Aggregate Amount in Row (11) Excludes Certain Shares   
(See Instructions)

**13** Percent of Class Represented by Amount in Row (11) 2.4%\* 2.4%\*

**14** Type of Reporting Person PN

\* The denominator is based on the approximately 21.3 million shares of the common stock reported by the Issuer to be issued and outstanding as of February 13, 2017, in its Current Report on Form 8-K, as filed with the Securities and Exchange Commission on February 13, 2017.

**1** Name of Reporting Person/  
I.R.S. Identification No. of Above Person (Entities Only) BV Partners VI, L.L.C.  
46-3847523

**2** Check the Appropriate Box if a Member of a Group  
(a)   
(b)

**3** SEC USE ONLY SEC Use Only

**4** Source of Funds (*See Instructions*) OO

**5** Check if Disclosure of Legal Proceedings is Required Pursuant to Items 2(d) or 2(e)

**6** Citizenship or Place of Organization  
Delaware

<b>Number of Shares Beneficially Owned by Each Reporting Person With</b>	<b>7</b>	Sole Voting Power	500,433
	<b>8</b>	Shared Voting Power	0
	<b>9</b>	Sole Dispositive Power	500,433
	<b>10</b>	Shared Dispositive Power	0

**11** Aggregate Amount Beneficially Owned by Each Reporting Person  
500,433

**12** Check if the Aggregate Amount in Row (11) Excludes Certain Shares   
(*See Instructions*)

**13** Percent of Class Represented by Amount in Row (11) 2.4%\*

**14** Type of Reporting Person OO

\* The denominator is based on the approximately 21.3 million shares of the common stock reported by the Issuer to be issued and outstanding as of February 13, 2017, in its Current Report on Form 8-K, as filed with the Securities and Exchange Commission on February 13, 2017.

<b>1</b>	Name of Reporting Person/ I.R.S. Identification No. of Above Person (Entities Only)	Kyle Lefkoff
<b>2</b>	Check the Appropriate Box if a Member of a Group  (a) <input type="checkbox"/> (b) <input type="checkbox"/>	
<b>3</b>	SEC USE ONLY	SEC Use Only
<b>4</b>	Source of Funds ( <i>See Instructions</i> )	OO
<b>5</b>	Check if Disclosure of Legal Proceedings is Required Pursuant to Items 2(d) or 2(e) <input type="checkbox"/>	
<b>6</b>	Citizenship or Place of Organization  United States	
	<b>7</b> Sole Voting Power	0
<b>Number of Shares Beneficially Owned by Each Reporting Person With</b>	<b>8</b> Shared Voting Power	2,107,870
	<b>9</b> Sole Dispositive Power	0
	<b>10</b> Shared Dispositive Power	2,107,870
	<b>11</b> Aggregate Amount Beneficially Owned by Each Reporting Person	2,107,870
<b>12</b>	Check if the Aggregate Amount in Row (11) Excludes Certain Shares <input type="checkbox"/> ( <i>See Instructions</i> )	
<b>13</b>	Percent of Class Represented by Amount in Row (11) 9.9%*	9.9%*
<b>14</b>	Type of Reporting Person	IN

\* The denominator is based on the approximately 21.3 million shares of the common stock reported by the Issuer to be issued and outstanding as of February 13, 2017, in its Current Report on Form 8-K, as filed with the Securities and Exchange Commission on February 13, 2017.

**1** Name of Reporting Person/  
I.R.S. Identification No. of Above Person (Entities Only)  
Jonathan L. Perl

**2** Check the Appropriate Box if a Member of a Group  
(a)   
(b)

**3** SEC USE ONLY SEC Use Only

**4** Source of Funds (*See Instructions*) OO

**5** Check if Disclosure of Legal Proceedings is Required Pursuant to Items 2(d) or 2(e)

**6** Citizenship or Place of Organization  
United States

<b>Number of Shares Beneficially Owned by Each Reporting Person With</b>	<b>7</b>	Sole Voting Power	0
	<b>8</b>	Shared Voting Power	2,107,870
	<b>9</b>	Sole Dispositive Power	0
	<b>10</b>	Shared Dispositive Power	2,107,870

**11** Aggregate Amount Beneficially Owned by Each Reporting Person  
2,107,870

**12** Check if the Aggregate Amount in Row (11) Excludes Certain Shares   
(*See Instructions*)

**13** Percent of Class Represented by Amount in Row (11) 9.9%\*

**14** Type of Reporting Person IN

\* The denominator is based on the approximately 21.3 million shares of the common stock reported by the Issuer to be issued and outstanding as of February 13, 2017, in its Current Report on Form 8-K, as filed with the Securities and Exchange Commission on February 13, 2017.

**1** Name of Reporting Person/  
I.R.S. Identification No. of Above Person (Entities Only) Peter A. Roshko

**2** Check the Appropriate Box if a Member of a Group

(a)

(b)

**3** SEC USE ONLY SEC Use Only

**4** Source of Funds (*See* Instructions) OO

**5** Check if Disclosure of Legal Proceedings is Required Pursuant to Items 2(d) or 2(e)

**6** Citizenship or Place of Organization

United States

<b>Number of Shares Beneficially Owned by Each Reporting Person With</b>	<b>7</b>	Sole Voting Power	0
	<b>8</b>	Shared Voting Power	2,107,870
	<b>9</b>	Sole Dispositive Power	0
	<b>10</b>	Shared Dispositive Power	2,107,870

**11** Aggregate Amount Beneficially Owned by Each Reporting Person  
500,433

**12** Check if the Aggregate Amount in Row (11) Excludes Certain Shares   
(*See* Instructions)

**13** Percent of Class Represented by Amount in Row (11) 9.9%\*

**14** Type of Reporting Person IN

\* The denominator is based on the approximately 21.3 million shares of the common stock reported by the Issuer to be issued and outstanding as of February 13, 2017, in its Current Report on Form 8-K, as filed with the Securities and Exchange Commission on February 13, 2017.



**ITEM 1. SECURITY AND ISSUER.**

This Statement on Schedule 13D (this "**Schedule 13D**") relates to shares of common stock (the "**Common Stock**"), par value \$0.01 per share (the "**Shares**"), of Miragen Therapeutics, Inc., a Delaware corporation (the "**Issuer**"). The address of the Issuer's principal executive office is 6200 Lookout Road, Boulder, Colorado 80301.

**ITEM 2. IDENTITY AND BACKGROUND.**

**Item 2 (a) – (c).** This Schedule 13D is being filed by the following persons: Boulder Ventures V, L.P., a Delaware limited partnership ("**BV-V**"), Boulder Ventures VI, L.P., a Delaware limited partnership ("**BV-VI**"), Kyle Lefkoff ("**Lefkoff**"), Jonathan L. Perl ("**Perl**") and Peter A Roshko ("**Roshko**") (each a "**Reporting Person**" and collectively the "**Reporting Persons**").

BV Partners V, LLC is the sole general partner of BV-V, and BV Partners VI, LLC is the sole general partner of BV-VI. Lefkoff, Perl and Roshko are members of BV Partners V, LLC and BV Partners VI, LLC and may be deemed to share investment and voting power over shares held by BV-V and BV-VI. Lefkoff, Perl and Roshko disclaim beneficial ownership of the Shares held by BV-V and BV-VI, except to the extent of their respective pecuniary interests in such Shares.

The principal business of each of the Reporting Persons is venture capital investing. The business address and principal executive offices of each of the Reporting Persons are 1941 Pearl Street, Suite 300, Boulder, Colorado 80302.

The Shares to which this Schedule 13D relates are owned directly by BV-V and BV-VI.

**Item 2 (d) – (e).** During the last five years, none of the Reporting Persons has been convicted in any criminal proceeding (excluding traffic violations or similar misdemeanors), or has been a party to any civil proceeding of a judicial or administrative body of competent jurisdiction and as a result of such proceeding was or is subject to a judgment, decree or final order enjoining future violations of, or prohibiting or mandating activities subject to, federal or state securities laws or finding any violations with respect to such laws.

**Item 2 (f).** BV-V and BV-VI is each a limited partnership formed under the laws of the State of Delaware. BV Partners V, LLC and BV Partners VI, LLC is each a limited liability company formed under the laws of the State of Delaware. Lefkoff, Perl and Roshko are each United States citizens.

**ITEM 3. SOURCE AND AMOUNT OF FUNDS OR OTHER CONSIDERATION.**

The information set forth in Item 4 hereof is hereby incorporated by reference into this Item 3, as applicable.

**ITEM 4. PURPOSE OF TRANSACTION.****Merger Agreement**

As more fully described in the Agreement and Plan of Merger and Reorganization, dated as of October 31, 2016 (the "**Merger Agreement**"), by and among the Issuer, Signal Merger Sub, Inc. and the corporation then known as Miragen Therapeutics, Inc. ("**Old Miragen**"), the shares of common stock of Old Miragen were converted into the right to receive shares of the Issuer in the merger contemplated by the Merger Agreement (the "**Merger**"). Pursuant to the terms of the Merger Agreement, each share of Old Miragen common stock was converted into the right to receive 0.7031 Shares of the Issuer's common stock.

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Immediately prior to the effective time of the merger, each share of Old Miragen preferred stock converted into one share of Old Miragen's common stock.

Immediately prior to the consummation of the merger, BV-V held an aggregate of 2,286,214 shares of common stock of Old Miragen, which in turn had represented 55,500 shares of common stock of Old Miragen held by BV-V plus shares of common stock of Old Miragen issued upon the conversion of 1,691,598 shares of Series A preferred stock of Old Miragen, 306,027 shares of Series B preferred stock of Old Miragen and 233,089 shares of Series C preferred stock of Old Miragen held by BV-V. As a result of the Merger, the 2,286,214 shares of Old Miragen common stock held by BV-V immediately prior to the Merger converted into the right to receive 1,607,437 Shares.

Immediately prior to the consummation of the merger, BV-VI held an aggregate of 711,753 shares of common stock of Old Miragen, which in turn had represented 147,419 shares of common stock of Old Miragen held by BV-VI plus shares of common stock of Old Miragen issued upon the conversion of 564,334 shares of Series C preferred stock of Old Miragen held by BV-VI. As a result of the Merger, the 711,753 shares of Old Miragen common stock held by BV-VI immediately prior to the Merger converted into the right to receive 500,433 Shares.

BV-V and BV-VI acquired the shares of common stock of Old Miragen as investments in their ordinary course of business.

### **Lock-Up Agreement**

In connection with the Merger, and in order to induce the parties to close the Merger, certain officers, directors and securityholders of Old Miragen (each, a "**Securityholder**") entered into a lock-up agreement, dated October 31, 2016 (the "**Lock-Up Agreement**"), with Old Miragen that provided that from and after the date thereof until the earlier to occur of (a) 180 days after the Closing Date (as defined in the Merger Agreement) or (b) such date and time as the Merger Agreement shall be terminated (the "**Lock-Up Period**"), such Securityholders would not, except in limited circumstances, offer, pledge, sell, contract to sell, sell any option to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, or otherwise transfer or dispose of, any of the Issuer's securities or shares of the Issuer's common stock, including, as applicable, Shares received in the Merger and issuable upon exercise of certain warrants and options.

In connection with the foregoing, and as may be appropriate from time to time, each of the Reporting Persons may consider the feasibility and advisability of various alternative courses of action with respect to its investment in the Issuer, including, without limitation: (a) the acquisition or disposition by the Reporting Persons of Shares, including through derivative transactions which may include security-based swaps and short sales; (b) an extraordinary corporate transaction, such as a merger, reorganization or liquidation, involving the Issuer or any of its subsidiaries; (c) a sale or transfer of a material amount of assets of the Issuer or any of its subsidiaries; (d) changes in the present board of directors or management of the Issuer; (e) a material change in the present capitalization or dividend policy of the Issuer; (f) other material changes in the Issuer's business or corporate structure; (g) changes in the Issuer's articles of incorporation or bylaws or other actions that may impede the acquisition of control of the Issuer by any person; (h) causing any class of the Issuer's securities to be delisted from a national securities exchange or to cease to be authorized to be quoted in an inter-dealer quotation system of a registered national securities association; (i) causing a class of equity securities of the Issuer to become eligible for termination of registration pursuant to Section 12 of the Exchange Act; or (j) any action similar to those enumerated above. Except as described in Item 6 and this Item 4 and any plans or proposals that may from time to time be discussed or considered by the directors of the Issuer, including Lefkoff, who is a member of BV Partners V, LLC and BV Partners VI, LLC, in their fiduciary capacities as directors of the Issuer, the Reporting Persons do not currently have any plans or proposals that relate to or would result in any of the actions specified in clause (a) through (j) of this paragraph.

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The Reporting Persons reserve the right, based on all relevant factors and subject to applicable law or other restrictions, at any time and from time to time, to acquire additional Shares, dispose of some or all of the Shares, in each case in open market or private transactions, block sales or otherwise, and review or reconsider their position, change their purpose, take other actions (including actions that could involve one or more of the types of transactions or have one or more of the results described in clauses (a) through (j) of the foregoing paragraph of this Item 4) or formulate and implement plans or proposals with respect to any of the foregoing. Except as set forth in this Schedule 13D, no contract, arrangement, relationship or understanding (either oral or written) exists among the Reporting Persons as to the acquisition, disposition, voting or holding of Shares.

The Reporting Persons intend to review their investment in the Issuer from time to time on the basis of various factors, including the Issuer's business, financial condition, results of operations and prospects, general economic and industry conditions, the securities markets in general and those for the Issuer's stock in particular, as well as other developments.

#### **ITEM 5. INTEREST IN SECURITIES OF THE ISSUER.**

(a) and (b) As of February 13, 2017, BV-V beneficially owned and had voting and dispositive power with respect to 1,607,437 Shares, representing approximately 7.5% and BV-VI beneficially owned and had voting and dispositive power with respect to 500,433 Shares, representing approximately 2.4% of the approximately 21.3 million shares of common stock issued and outstanding as of February 13, 2017, as reported in the Issuer's Current Report on Form 8-K, as filed with the Securities and Exchange Commission on February 13, 2017.

As of February 13, 2017, BV Partners V, LLC, by virtue of its position as general partner of BV-V, may be deemed to beneficially own and had voting and dispositive power with respect to 1,607,437 Shares, representing approximately 7.5% and BV Partners VI, LLC, by virtue of its position as general partner of BV-VI, may be deemed to beneficially own and had voting and dispositive power with respect to 500,433 Shares, representing approximately 2.4% of the approximately 21.3 million shares of common stock issued and outstanding as of February 13, 2017 as reported in the Issuer's Current Report on Form 8-K, as filed with the Securities and Exchange Commission on February 13, 2017.

As of February 13, 2017, Lefkoff, Perl and Roshko as members of BV Partners V, LLC and BV Partners VI, LLC, may be deemed to beneficially own and had shared voting and dispositive power with respect to 1,607,437 Shares held by BV-V, representing approximately 7.5%, and 500,443 Shares held by BV-VI, representing approximately 2.4%, of the approximately 21.3 million shares of common stock issued and outstanding as of February 13, 2017 as reported in the Issuer's Current Report on Form 8-K, as filed with the Securities and Exchange Commission on February 13, 2017.

(c) Information with respect to all transactions in the Shares beneficially owned by the Reporting Persons that were effected during the past sixty days is described in Item 4 and incorporated herein by reference.

(d) Not applicable.

(e) Not applicable.

#### **ITEM 6. CONTRACTS, ARRANGEMENTS, UNDERSTANDINGS OR RELATIONSHIPS WITH RESPECT TO SECURITIES OF THE ISSUER.**

The information set forth in Item 4 hereof is hereby incorporated by reference into this Item 6. Except as referenced above or described in Item 4 hereof, there are no contracts, arrangements, understandings or relationships among the Reporting Persons or between such Reporting Persons and any other person with respect to any securities of the Issuer.

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**ITEM 7. MATERIAL TO BE FILED AS EXHIBITS.**

Exhibit 99.1 Joint Filing Agreement as required by Rule 13d-1(k)(1) under the Securities Exchange Act of 1934, as amended

Exhibit 99.2 Form of Lock-Up Agreement, dated as of October 31, 2016, by and between Miragen Therapeutics, Inc. and each of Boulder Ventures V, L.P. and Boulder Ventures VI, L.P.

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**SIGNATURES**

After reasonable inquiry and to the best of his or its knowledge and belief, each of the undersigned Reporting Persons certifies that the information set forth in this statement with respect to him or it, as applicable, is true, complete and correct.

Dated: February 24, 2017

BOULDER VENTURES V, L.P.

By: BV Partners V, LLC  
Its: General Partner

By: /s/ Kyle Lefkoff  
Kyle Lefkoff, Managing Member

BOULDER VENTURES VI, L.P.

By: BV Partners VI, LLC  
Its: General Partner

By: /s/ Kyle Lefkoff  
Kyle Lefkoff, Managing Member

/s/ Kyle Lefkoff  
Kyle Lefkoff

/s/ Jonathan L. Perl  
Jonathan L. Perl

/s/ Peter A. Roshko  
Peter A. Roshko

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**JOINT FILING AGREEMENT**

In accordance with Rule 13d-1(k) under the Securities Exchange Act of 1934, as amended, the undersigned hereby agree to the joint filing on behalf of each of them this Schedule 13D (including further amendments thereto) with respect to the common stock of Miragen Therapeutics, Inc., and that this Joint Filing Agreement be included as an exhibit to such joint filing.

This Joint Filing Agreement may be executed in one or more counterparts, and each such counterpart shall be an original but all of which, taken together, shall constitute but one and the same instrument.

IN WITNESS WHEREOF, the undersigned hereby execute this Joint Filing Agreement as of this 24th day of February, 2017.

BOULDER VENTURES V, L.P.

By: BV Partners V, LLC  
Its: General Partner

By: /s/ Kyle Lefkoff  
Kyle Lefkoff, Managing Member

BOULDER VENTURES VI, L.P.

By: BV Partners VI, LLC  
Its: General Partner

By: /s/ Kyle Lefkoff  
Kyle Lefkoff, Managing Member

/s/ Kyle Lefkoff  
Kyle Lefkoff

/s/ Jonathan L. Perl  
Jonathan L. Perl

/s/ Peter A. Roshko  
Peter A. Roshko

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## LOCK-UP AGREEMENT

\_\_\_\_\_, 2016

Miragen Therapeutics, Inc.  
6200 Lookout Road #100  
Boulder, CO 80301

Ladies and Gentlemen:

In connection with the proposed acquisition of Miragen Therapeutics, Inc. ("**Miragen**") by Signal Genetics, Inc. ("**Signal**") whereby Signal Merger Sub, Inc., a wholly-owned subsidiary of Signal, will merge with and into Miragen (the "**Merger**"), and in consideration of Miragen proceeding with the Merger as contemplated by the Agreement and Plan of Merger and Reorganization dated October 31, 2016 (the "**Merger Agreement**"), the receipt and sufficiency of such consideration being hereby acknowledged and accepted, and in order to induce Miragen to close the Merger, the undersigned ("**Securityholder**"), a holder of shares of Miragen Capital Stock, Miragen Options and/or Miragen Warrants (collectively, the "**Miragen Securities**") who or that will receive shares of Signal's Common Stock in exchange for his, her or its shares of Miragen Common Stock and/or upon exercise of Miragen Options and/or Miragen Warrants, as the case may be, hereby agrees with Miragen as follows:

1. During the Lock-Up Period (as defined below), Securityholder shall not, directly or indirectly, without the prior written consent of Miragen (or, from and after the Effective Time, Signal) and subject to the exceptions set forth in this Lock-up Agreement, (a) offer, pledge, sell, contract to sell, sell any option or contract to purchase, purchase any option or contract to sell, grant any option, right or warrant to purchase, or otherwise transfer or dispose of, directly or indirectly, any (i) Miragen Securities or (ii) shares of Signal Common Stock or any securities convertible into, exchangeable for or that represent the right to receive shares of Signal Common Stock, in each case, whether now owned or hereinafter acquired, owned directly by Securityholder (including holding as a custodian) or with respect to which Securityholder has beneficial ownership within the rules and regulations of the Securities and Exchange Commission (collectively, the "**Locked-Up Securities**"), or publicly disclose an intention to effect any such transaction, (b) effect any short sale or enter into any contract, option, commitment or other arrangement or understanding with respect to the direct or indirect sale, transfer, assignment or other disposition of (including, without limitation, by the creation of any Encumbrance or by establishing or increasing a put equivalent position or liquidating or decreasing a call equivalent position within the meaning of Section 16 of the Securities Exchange Act of 1934, as amended (the "**Exchange Act**"), and the rules and regulations of the Securities and Exchange Commission promulgated thereunder with respect to) any Locked-Up Securities, or publicly disclose an intention to effect any such transaction, (c) take any action that would make any representation or warranty of Securityholder contained herein untrue or incorrect or have the effect of preventing or disabling Securityholder from performing Securityholder's obligations under this Lock-Up Agreement or (d) make any demand for or exercise any right with respect to the registration of any Miragen Securities, any shares of Signal Common Stock or any security convertible into or exercisable or exchangeable for Signal Common Stock, in each case, other than (1) transfers of the Locked-Up Securities as a bona fide gift or gifts, (2) transfers or dispositions of the Locked-Up Securities to any trust for the direct or indirect benefit of Securityholder or the immediate family of Securityholder, (3) transfers or dispositions of the Locked-Up Securities by will, other testamentary document or intestate succession to the legal representative, heir, beneficiary or a member of the immediate family of Securityholder, (4) transfers of the Locked-Up Securities to stockholders, direct or indirect affiliates (within the meaning set forth in Rule 405 under the Securities Act of 1933, as amended), current or former partners (general or limited), members or managers of Securityholder, as applicable, or to the estates of any such stockholders, affiliates, partners, members or managers, or to another corporation, partnership, limited liability company or other business entity that controls, is controlled by or is under common control with Securityholder, (5) transfers that occur by operation of law pursuant to a qualified domestic order or in connection with a divorce settlement, (6) transfers or dispositions not involving a change in beneficial ownership and (7) if Securityholder is a trust, transfers or dispositions to any beneficiary of Securityholder or the estate of any such beneficiary; *provided* that in the case of any transfer or distribution pursuant to clauses (1)-(7), (x) each transferee, donee or distributee shall execute and deliver to Miragen a lock-up letter in substantially the form of this Lock-Up Agreement, (y) such transfer or distribution shall not involve a disposition of value and (z) no filing by any party (donor, donee, transferor or transferee) under the Exchange Act or other public announcement shall be required or shall be made voluntarily in connection with such transfer or distribution (other than (A) a filing at any time on a Form 5 or (B) a filing after the expiration of the Lock-Up Period on a Schedule 13D or Schedule 13G (or Schedule 13D/A or Schedule 13G/A). For purposes of this Lock-Up Agreement, "**immediate family**" shall mean any relationship by blood, marriage or adoption, not more remote than first cousin.
  
2. Furthermore, notwithstanding the restrictions imposed by this Lock-Up Agreement, Securityholder may, without the prior written consent of Miragen (or, from and after the Effective Time, Signal), (a) exercise an option (including a net or cashless exercise of an option to the extent permitted pursuant to the terms thereof) to purchase shares of Signal Common Stock, and transfer shares of Signal Common Stock to Signal to cover tax withholding obligations of Securityholder in connection with any such option exercise, *provided* that the underlying shares of Signal Common Stock shall continue to be subject to the restrictions on transfer set forth in this Lock-Up Agreement, (b) exercise a Miragen Option (including a net or cashless exercise of a Miragen Option to the extent permitted pursuant to the terms thereof) to purchase shares of Miragen Common Stock, and transfer shares of Miragen Common Stock to Miragen to cover tax withholding obligations of Securityholder in connection with any such option exercise, *provided* that the underlying shares of Miragen Common Stock shall continue to be subject to the restrictions on transfer set forth in this Lock-Up Agreement, (c) establish a trading plan pursuant to Rule 10b5-

1 under the Exchange Act for the transfer of Signal Common Stock, *provided* that such plan does not provide for any transfers of Signal Common Stock during the Lock-Up Period, (d) transfer or dispose of shares of Signal Common Stock acquired on the open market following the Closing Date, (e) transfer or dispose of a number of shares of Signal Common Stock equal to the number of shares of Signal Common Stock received by Securityholder in the Merger as consideration for shares of Miragen Common Stock purchased by Securityholder in the Miragen Pre-Closing Financing, (f) transfer Locked-Up Securities to Miragen or Signal, as applicable, pursuant to arrangements under which Miragen or Signal, as applicable, has the option to repurchase such Locked-Up Securities or a right of first refusal with respect to transfers of such Locked-Up Securities, (g) convert shares of Miragen Preferred Stock into shares of Miragen Common Stock prior to or in connection with the consummation of the Merger, including pursuant to the Preferred Stock Conversion, *provided* that any such shares of Miragen Common Stock received upon such conversion shall be subject to the terms of this Lock-Up Agreement and (h) sell or dispose of shares of Miragen Capital Stock in the Merger; *provided* that, with respect to each of clauses (a)-(c), no filing under the Exchange Act or other public announcement shall be required or shall be made voluntarily in connection with such transfer or disposition during the Lock-Up Period (other than in respect of a required filing under the Exchange Act in connection with the exercise of an option to purchase Signal Common Stock following such individual's termination of employment with Miragen or Signal (or termination of such individual's service as a member of the board of directors of Miragen or Signal) that would otherwise expire during the Lock-Up Period, *provided* that reasonable notice shall be provided to Miragen and Signal prior to any such filing, and *provided, further*, that, for the avoidance of doubt, the underlying shares of Signal Common Stock shall continue to be subject to the restrictions on transfer set forth in this Lock-Up Agreement).

3. As used in this Lock-Up Agreement, the term "**Lock-Up Period**" shall mean from and after the date hereof until the earlier to occur of (a) 180 days after the Closing Date or (b) such date and time as the Merger Agreement shall be terminated pursuant to Section 9 thereof or otherwise. Upon termination or expiration of the Lock-Up Period, this Lock-Up Agreement shall terminate and be of no further force or effect and no party shall have any further obligations or liabilities hereunder; *provided, however*, such termination or expiration shall not relieve any party from liability for any willful breach of this Lock-Up Agreement or acts of bad faith prior to termination hereof.

Securityholder also agrees and consents to the entry of stop transfer instructions with Miragen's or Signal's transfer agent and registrar against the transfer of the Locked-Up Securities, except in compliance with this Lock-Up Agreement. In furtherance of the foregoing, Signal, Miragen and their respective transfer agents are hereby authorized to decline to make any transfer of securities if such transfer would constitute a violation or breach of this Lock-Up Agreement. An attempted transfer in violation of this Lock-Up Agreement will be of no effect and null and void, regardless of whether the purported transferee has any actual or constructive knowledge of the transfer restrictions set forth in this Lock-Up Agreement, and will not be recorded on the stock transfer books of Miragen or Signal.

Securityholder understands that Miragen will proceed with the Merger in reliance on this Lock-Up Agreement. Moreover, Securityholder understands and agrees that Miragen is relying upon the accuracy, completeness, and truth of Securityholder's representations, warranties, agreements, and certifications contained in this Lock-Up Agreement.

Securityholder hereby represents and warrants that Securityholder has full power and authority to enter into this Lock-Up Agreement. All authority herein conferred or agreed to be conferred and any obligations of Securityholder shall be binding upon the successors, assigns, heirs or personal representatives of Securityholder.

Securityholder agrees that this Lock-Up Agreement and any claim, controversy or dispute arising under or related to this Lock-Up Agreement will be governed by and construed in accordance with the laws of the State of Delaware, without regard to the conflict of laws principles thereof that would cause the laws of another jurisdiction to apply. In respect of any action or suit arising out of or relating to this Lock-Up Agreement, Securityholder hereby: (a) irrevocably and unconditionally consents and submits to the exclusive jurisdiction and venue of the state and federal courts located in the State of Delaware; and (b) irrevocably waives the right to trial by jury.

Securityholder agrees that, to the extent that the terms of this Lock-Up Agreement conflict with or are in any way inconsistent with any prior investor rights agreement, prior registration rights agreement, prior market standoff agreement or any other prior lock-up or similar prior agreement to which Securityholder and Miragen may be a party, this Lock-Up Agreement supersedes such prior agreement.

This Lock-Up Agreement may be executed by facsimile or electronic (i.e., PDF) transmission, which is deemed an original. All capitalized terms used in this Lock-Up Agreement without definition herein shall have the meanings ascribed to them in the Merger Agreement.

*(Signature Page Follows)*

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Very truly yours,

*(Print Name of Stockholder)*

*(Signature)*

*(Name and Title of Signatory, if Signing  
on Behalf of an Entity)*

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