

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
Stylesheet Version v1.2

EPAS ID: PAT3715067

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|---|-----------------------------------|
| <b>SUBMISSION TYPE:</b>   | NEW ASSIGNMENT                    |
| <b>NATURE OF CONVEYANCE:</b>  | ASSIGNMENT                        |
| <b>CONVEYING PARTY DATA</b>   |                                   |
| <b>Name</b>   | <b>Execution Date</b>             |
| Lotien Richard Huang  | 07/23/2011                        |
| Thomas A. Barber  | 07/20/2011                        |
| Bruce L. Carvalho   | 07/21/2011                        |
| Ravi Kapur  | 07/20/2011                        |
| Paul Vernucci   | 07/26/2011                        |
| Zihua Wang  | 07/20/2011                        |
| <b>RECEIVING PARTY DATA</b>   |                                   |
| <b>Name:</b>  | VERINATA HEALTH, INC              |
| <b>Street Address:</b>  | 800 SAGINAW DRIVE                 |
| <b>City:</b>  | REDWOOD CITY                      |
| <b>State/Country:</b>   | CALIFORNIA                        |
| <b>Postal Code:</b>   | 94063                             |
| <b>PROPERTY NUMBERS Total: 1</b>  |                                   |
| <b>Property Type</b>  | <b>Number</b>                     |
| Application Number:   | 14930313                          |
| <b>CORRESPONDENCE DATA</b>  |                                   |
| <b>Fax Number:</b>  | (877)769-7945                     |
| <i>Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.</i> |                                   |
| <b>Phone:</b>   | (214) 747-5070                    |
| <b>Email:</b>   | apsi@fr.com                       |
| <b>Correspondent Name:</b>  | LINDSIE CAHILL                    |
| <b>Address Line 1:</b>  | FISH & RICHARDSON P.C.            |
| <b>Address Line 2:</b>  | P.O.BOX 1022                      |
| <b>Address Line 4:</b>  | MINNEAPOLIS, MINNESOTA 55440-1022 |
| <b>ATTORNEY DOCKET NUMBER:</b>  | 25594-0006004                     |
| <b>NAME OF SUBMITTER:</b>   | LINDSIE CAHILL                    |
| <b>SIGNATURE:</b>   | /LINDSIE CAHILL/                  |
| <b>DATE SIGNED:</b>   | 01/28/2016                        |

**Total Attachments: 18**

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source=25594-\_0006004Inventors\_to\_Verinata#page18.tif

**PATENT ASSIGNMENT**

WHEREAS, the undersigned:

Lotien Richard HUANG of Chestnut Hill, Massachusetts;  
Thomas A. BARBER of Allston, Massachusetts;  
Bruce L. CARVALHO of Watertown, Massachusetts;  
Ravi KAPUR of Sharon, Massachusetts;  
Paul VERNUCCI of Billerica, Massachusetts; and  
Zihua WANG of Newton, Massachusetts;

(hereinafter "Inventor(s)"), have invented certain new and useful improvements set forth in

**"DEVICES AND METHODS FOR ENRICHMENT AND ALTERATION OF CELLS AND OTHER PARTICLES"**

for which U.S. Patent Application No. 11/449,149 was filed on June 8, 2006 in the United States Patent Office (hereinafter "Application(s)").

WHEREAS, Verinata Health, Inc., a corporation of the State of Delaware, having a place of business at 1531 Industrial Road, San Carlos, CA 94070 (hereinafter "Assignee"), is desirous of acquiring the entire right, title and interest in and to said Application(s) and the inventions disclosed therein, and in and to all embodiments of the inventions, heretofore conceived, made or discovered, whether jointly or severally, by said Inventor(s) (hereinafter collectively referred to as "Inventions"), and in and to any and all patents, inventor's certificates and other forms of protection (hereinafter "Patent(s)") thereon granted in the United States, foreign countries, or under any international convention, agreement, protocol, or treaty.

NOW, THEREFORE, in consideration of good and valuable consideration acknowledged by said Inventor(s) to have been received in full from said Assignee:

1. Said Inventor(s) do hereby sell, assign, transfer and convey unto said Assignee the entire right, title and interest (a) in and to said Inventions and said Application(s), including the right to claim priority to said Inventions and said Application(s); (b) in and to all rights to all United States and corresponding non-United States patent applications and Patent(s), including those filed under the Paris Convention for the Protection of Industrial Property, The Patent Cooperation Treaty or otherwise; (c) in and to any and all applications filed and any and all Patent(s) granted on said Inventions in the United States, in any foreign country, or under any international convention, agreement, protocol, or treaty, including each and every application filed and any and all Patent(s) granted on any application which is a divisional, substitution, continuation, or continuation-in-part of any of said Application(s); and (d) in and to each and every reissue, reexamination, or extension of any of said Patent(s);

2. Said Inventor(s) hereby covenant and agree to cooperate with said Assignee to enable said Assignee to enjoy to the fullest extent the right, title and interest herein

conveyed in the United States, foreign countries, or under any international convention, agreement, protocol, or treaty. Such cooperation by said Inventor(s) shall include prompt production of pertinent facts and documents, giving of testimony, execution of petitions, oaths, specifications, declarations or other papers, and other assistance all to the extent deemed necessary or desirable by said Assignee (a) for perfecting in said Assignee the right, title and interest herein conveyed; (b) for prosecuting any applications covering said Inventions; (c) for filing and prosecuting substitute, divisional, continuing or additional applications covering said Inventions; (d) for filing and prosecuting applications for reissuance of any said Patent(s); (e) for interference or other priority proceedings involving said Inventions; and (f) for legal proceedings involving said Inventions and any applications therefor and any Patent(s) granted thereon, including without limitation reissues and reexaminations, opposition proceedings, cancellation proceedings, priority contests, public use proceedings, infringement actions and court actions; provided, however, that the expense incurred by said Inventor(s) in providing such cooperation shall be paid for by said Assignee;

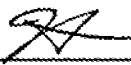
3. The terms and covenants of this assignment shall inure to the benefit of said Assignee, its successors, assigns and other legal representatives, and shall be binding upon said Inventor(s), their respective heirs, legal representatives and assigns;

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5. Said Inventor(s) hereby request that any Patent(s) issuing in the United States, foreign countries, or under any international convention, agreement, protocol, or treaty, be issued in the name of the Assignee, or its successors and assigns, for the sole use of said Assignee, its successors, legal representatives and assigns; and

6. This instrument will be interpreted and construed in accordance with the laws of the State of California, without regard to conflict of law principles. If any provision of this instrument is found to be illegal or unenforceable, the other provisions shall remain effective and enforceable to the greatest extent permitted by law. This instrument may be executed in counterparts, each of which is deemed an original, but all of which together constitute one and the same agreement.

IN WITNESS WHEREOF, said Inventor(s) have executed and delivered this instrument to said Assignee as of the dates written below:

  
\_\_\_\_\_  
Lotien Richard HUANG

Date: 7/23, 2011

\_\_\_\_\_  
Thomas A. BARBER

Date: \_\_\_\_\_, 2011

\_\_\_\_\_  
Bruce L. CARVALHO

Date: \_\_\_\_\_, 2011

\_\_\_\_\_  
Ravi KAPUR

Date: \_\_\_\_\_, 2011

\_\_\_\_\_  
Paul VERNUCCI

Date: \_\_\_\_\_, 2011

\_\_\_\_\_  
Zihua WANG

Date: \_\_\_\_\_, 2011

RECEIVED AND AGREED TO BY ASSIGNEE:

By:  \_\_\_\_\_

Date: August 1, 2011

Name: Norman J. Kruse  
Title: Assistant Secretary, Verinata Health, Inc.

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WHEREAS, the undersigned:

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**Thomas A. BARBER** of Allston, Massachusetts;  
**Bruce L. CARVALHO** of Watertown, Massachusetts;  
**Ravi KAPUR** of Sharon, Massachusetts;  
**Paul VERNUCCI** of Billerica, Massachusetts; and  
**Zihua WANG** of Newton, Massachusetts;

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NOW, THEREFORE, in consideration of good and valuable consideration acknowledged by said inventor(s) to have been received in full from said Assignee:

1. Said inventor(s) do hereby sell, assign, transfer and convey unto said Assignee the entire right, title and interest (a) in and to said Inventions and said Application(s), including the right to claim priority to said Inventions and said Application(s); (b) in and to all rights to all United States and corresponding non-United States patent applications and Patent(s), including those filed under the Paris Convention for the Protection of Industrial Property, The Patent Cooperation Treaty or otherwise; (c) in and to any and all applications filed and any and all Patent(s) granted on said Inventions in the United States, in any foreign country, or under any international convention, agreement, protocol, or treaty, including each and every application filed and any and all Patent(s) granted on any application which is a divisional, substitution, continuation, or continuation-in-part of any of said Application(s); and (d) in and to each and every reissue, reexamination, or extension of any of said Patent(s);

2. Said inventor(s) hereby covenant and agree to cooperate with said Assignee to enable said Assignee to enjoy to the fullest extent the right, title and interest herein

conveyed in the United States, foreign countries, or under any international convention, agreement, protocol, or treaty. Such cooperation by said Inventor(s) shall include prompt production of pertinent facts and documents, giving of testimony, execution of petitions, oaths, specifications, declarations or other papers, and other assistance all to the extent deemed necessary or desirable by said Assignee (a) for perfecting in said Assignee the right, title and interest herein conveyed; (b) for prosecuting any applications covering said Inventions; (c) for filing and prosecuting substitute, divisional, continuing or additional applications covering said Inventions; (d) for filing and prosecuting applications for reissuance of any said Patent(s); (e) for interference or other priority proceedings involving said Inventions; and (f) for legal proceedings involving said Inventions and any applications therefor and any Patent(s) granted thereon, including without limitation reissues and reexaminations, opposition proceedings, cancellation proceedings, priority contests, public use proceedings, infringement actions and court actions; provided, however, that the expense incurred by said Inventor(s) in providing such cooperation shall be paid for by said Assignee;

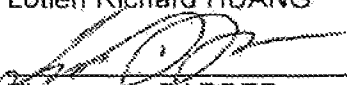
3. The terms and covenants of this assignment shall inure to the benefit of said Assignee, its successors, assigns and other legal representatives, and shall be binding upon said Inventor(s), their respective heirs, legal representatives and assigns;

4. Said Inventor(s) hereby warrant and represent that they have not entered and will not enter into any assignment, contract, or understanding in conflict herewith;

5. Said Inventor(s) hereby request that any Patent(s) issuing in the United States, foreign countries, or under any international convention, agreement, protocol, or treaty, be issued in the name of the Assignee, or its successors and assigns, for the sole use of said Assignee, its successors, legal representatives and assigns; and

6. This instrument will be interpreted and construed in accordance with the laws of the State of California, without regard to conflict of law principles. If any provision of this instrument is found to be illegal or unenforceable, the other provisions shall remain effective and enforceable to the greatest extent permitted by law. This instrument may be executed in counterparts, each of which is deemed an original, but all of which together constitute one and the same agreement.

IN WITNESS WHEREOF, said Inventor(s) have executed and delivered this instrument to said Assignee as of the dates written below:

|   |                     |
|---|---------------------|
| _____   | Date: _____, 2011   |
| Lotien Richard HUANG  |                     |
|  | Date: July 20, 2011 |
| Thomas A. BARBER  |                     |
| _____   | Date: _____, 2011   |
| Bruce L. CARVALHO   |                     |

\_\_\_\_\_  
Ravi KAPUR

Date: \_\_\_\_\_, 2011

\_\_\_\_\_  
Paul VERNUCCI

Date: \_\_\_\_\_, 2011

\_\_\_\_\_  
Zihua WANG

Date: \_\_\_\_\_, 2011

RECEIVED AND AGREED TO BY ASSIGNEE:

By: 

Date: August 1, 2011

Name: Norman J. Kruse  
Title: Assistant Secretary, Verinata Health, Inc.



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WHEREAS, the undersigned:

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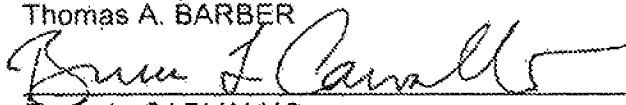
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Ravi KAPUR

Date: \_\_\_\_\_, 2011

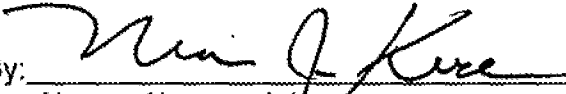
\_\_\_\_\_  
Paul VERNUCCI

Date: \_\_\_\_\_, 2011

\_\_\_\_\_  
Zihua WANG

Date: \_\_\_\_\_, 2011

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Date: August 1, 2011

Name: Norman J. Kruse

Title: Assistant Secretary, Verinata Health, Inc.

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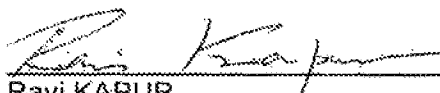
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Lotien Richard HUANG Date: \_\_\_\_\_, 2011

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Thomas A. BARBER Date: \_\_\_\_\_, 2011

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Bruce L. CARVALHO Date: \_\_\_\_\_, 2011

  
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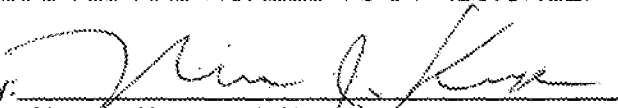
\_\_\_\_\_  
Paul VERNUCCI

Date: \_\_\_\_\_, 2011

\_\_\_\_\_  
Zihua WANG

Date: \_\_\_\_\_, 2011

RECEIVED AND AGREED TO BY ASSIGNEE:

By:   
Name: Norman J. Kruse

Date: 20 July, 2011

Title: Assistant Secretary, Verinata Health, Inc.

**PATENT ASSIGNMENT**

WHEREAS, the undersigned:

**Lotien Richard HUANG** of Chestnut Hill, Massachusetts;  
**Thomas A. BARBER** of Allston, Massachusetts;  
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1. Said Inventor(s) do hereby sell, assign, transfer and convey unto said Assignee the entire right, title and interest (a) in and to said Inventions and said Application(s), including the right to claim priority to said Inventions and said Application(s); (b) in and to all rights to all United States and corresponding non-United States patent applications and Patent(s), including those filed under the Paris Convention for the Protection of Industrial Property, The Patent Cooperation Treaty or otherwise; (c) in and to any and all applications filed and any and all Patent(s) granted on said Inventions in the United States, in any foreign country, or under any international convention, agreement, protocol, or treaty, including each and every application filed and any and all Patent(s) granted on any application which is a divisional, substitution, continuation, or continuation-in-part of any of said Application(s); and (d) in and to each and every reissue, reexamination, or extension of any of said Patent(s);

2. Said Inventor(s) hereby covenant and agree to cooperate with said Assignee to enable said Assignee to enjoy to the fullest extent the right, title and interest herein

conveyed in the United States, foreign countries, or under any international convention, agreement, protocol, or treaty. Such cooperation by said Inventor(s) shall include prompt production of pertinent facts and documents, giving of testimony, execution of petitions, oaths, specifications, declarations or other papers, and other assistance all to the extent deemed necessary or desirable by said Assignee (a) for perfecting in said Assignee the right, title and interest herein conveyed; (b) for prosecuting any applications covering said inventions; (c) for filing and prosecuting substitute, divisional, continuing or additional applications covering said inventions; (d) for filing and prosecuting applications for reissuance of any said Patent(s); (e) for interference or other priority proceedings involving said inventions; and (f) for legal proceedings involving said inventions and any applications therefor and any Patent(s) granted thereon, including without limitation reissues and reexaminations, opposition proceedings, cancellation proceedings, priority contests, public use proceedings, infringement actions and court actions; provided, however, that the expense incurred by said Inventor(s) in providing such cooperation shall be paid for by said Assignee;

3. The terms and covenants of this assignment shall inure to the benefit of said Assignee, its successors, assigns and other legal representatives, and shall be binding upon said Inventor(s), their respective heirs, legal representatives and assigns;

4. Said Inventor(s) hereby warrant and represent that they have not entered and will not enter into any assignment, contract, or understanding in conflict herewith;

5. Said Inventor(s) hereby request that any Patent(s) issuing in the United States, foreign countries, or under any international convention, agreement, protocol, or treaty, be issued in the name of the Assignee, or its successors and assigns, for the sole use of said Assignee, its successors, legal representatives and assigns; and

6. This instrument will be interpreted and construed in accordance with the laws of the State of California, without regard to conflict of law principles. If any provision of this instrument is found to be illegal or unenforceable, the other provisions shall remain effective and enforceable to the greatest extent permitted by law. This instrument may be executed in counterparts, each of which is deemed an original, but all of which together constitute one and the same agreement.

IN WITNESS WHEREOF, said Inventor(s) have executed and delivered this instrument to said Assignee as of the dates written below:

\_\_\_\_\_  
Lotien Richard HUANG Date: \_\_\_\_\_, 2011

\_\_\_\_\_  
Thomas A. BARBER Date: \_\_\_\_\_, 2011

\_\_\_\_\_  
Bruce L. CARVALHO Date: \_\_\_\_\_, 2011



\_\_\_\_\_  
Ravi KAPUR

Date: \_\_\_\_\_, 2011

*Paul Vernucci*  
\_\_\_\_\_  
Paul VERNUCCI

Date: *July 26*, 2011

\_\_\_\_\_  
Zihua WANG

Date: \_\_\_\_\_, 2011

RECEIVED AND AGREED TO BY ASSIGNEE:

By: *Norman J. Kruse*  
\_\_\_\_\_  
Name: Norman J. Kruse  
Title: Assistant Secretary, Verinata Health, Inc.

Date: *August 1*, 2011

**PATENT ASSIGNMENT**

WHEREAS, the undersigned:

**Lotien Richard HUANG** of Chestnut Hill, Massachusetts;  
**Thomas A. BARBER** of Allston, Massachusetts;  
**Bruce L. CARVALHO** of Watertown, Massachusetts;  
**Ravi KAPUR** of Sharon, Massachusetts;  
**Paul VERNUCCI** of Billerica, Massachusetts; and  
**Zihua WANG** of Newton, Massachusetts;

(hereinafter "Inventor(s)"), have invented certain new and useful improvements set forth in

**"DEVICES AND METHODS FOR ENRICHMENT AND ALTERATION OF CELLS AND OTHER PARTICLES"**

for which U.S. Patent Application No. 11/449,149 was filed on June 8, 2006 in the United States Patent Office (hereinafter "Application(s)").

WHEREAS, **Verinata Health, Inc.**, a corporation of the State of Delaware, having a place of business at **1531 Industrial Road, San Carlos, CA 94070** (hereinafter "Assignee"), is desirous of acquiring the entire right, title and interest in and to said Application(s) and the inventions disclosed therein, and in and to all embodiments of the inventions, heretofore conceived, made or discovered, whether jointly or severally, by said Inventor(s) (hereinafter collectively referred to as "inventions"), and in and to any and all patents, inventor's certificates and other forms of protection (hereinafter "Patent(s)") thereon granted in the United States, foreign countries, or under any international convention, agreement, protocol, or treaty.

NOW, THEREFORE, in consideration of good and valuable consideration acknowledged by said Inventor(s) to have been received in full from said Assignee:

1. Said Inventor(s) do hereby sell, assign, transfer and convey unto said Assignee the entire right, title and interest (a) in and to said Inventions and said Application(s), including the right to claim priority to said Inventions and said Application(s); (b) in and to all rights to all United States and corresponding non-United States patent applications and Patent(s), including those filed under the Paris Convention for the Protection of Industrial Property, The Patent Cooperation Treaty or otherwise; (c) in and to any and all applications filed and any and all Patent(s) granted on said Inventions in the United States, in any foreign country, or under any international convention, agreement, protocol, or treaty, including each and every application filed and any and all Patent(s) granted on any application which is a divisional, substitution, continuation, or continuation-in-part of any of said Application(s); and (d) in and to each and every reissue, reexamination, or extension of any of said Patent(s);

2. Said Inventor(s) hereby covenant and agree to cooperate with said Assignee to enable said Assignee to enjoy to the fullest extent the right, title and interest herein

conveyed in the United States, foreign countries, or under any international convention, agreement, protocol, or treaty. Such cooperation by said Inventor(s) shall include prompt production of pertinent facts and documents, giving of testimony, execution of petitions, oaths, specifications, declarations or other papers, and other assistance all to the extent deemed necessary or desirable by said Assignee (a) for perfecting in said Assignee the right, title and interest herein conveyed; (b) for prosecuting any applications covering said Inventions; (c) for filing and prosecuting substitute, divisional, continuing or additional applications covering said Inventions; (d) for filing and prosecuting applications for reissuance of any said Patent(s); (e) for interference or other priority proceedings involving said Inventions; and (f) for legal proceedings involving said Inventions and any applications therefor and any Patent(s) granted thereon, including without limitation reissues and reexaminations, opposition proceedings, cancellation proceedings, priority contests, public use proceedings, infringement actions and court actions; provided, however, that the expense incurred by said Inventor(s) in providing such cooperation shall be paid for by said Assignee;

3. The terms and covenants of this assignment shall inure to the benefit of said Assignee, its successors, assigns and other legal representatives, and shall be binding upon said Inventor(s), their respective heirs, legal representatives and assigns;

4. Said Inventor(s) hereby warrant and represent that they have not entered and will not enter into any assignment, contract, or understanding in conflict herewith;

5. Said Inventor(s) hereby request that any Patent(s) issuing in the United States, foreign countries, or under any international convention, agreement, protocol, or treaty, be issued in the name of the Assignee, or its successors and assigns, for the sole use of said Assignee, its successors, legal representatives and assigns; and

6. This instrument will be interpreted and construed in accordance with the laws of the State of California, without regard to conflict of law principles. If any provision of this instrument is found to be illegal or unenforceable, the other provisions shall remain effective and enforceable to the greatest extent permitted by law. This instrument may be executed in counterparts, each of which is deemed an original, but all of which together constitute one and the same agreement.

IN WITNESS WHEREOF, said Inventor(s) have executed and delivered this instrument to said Assignee as of the dates written below:

\_\_\_\_\_  
Lotien Richard HUANG Date: \_\_\_\_\_, 2011

\_\_\_\_\_  
Thomas A. BARBER Date: \_\_\_\_\_, 2011

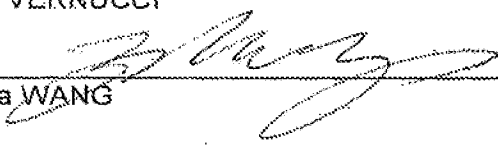
\_\_\_\_\_  
Bruce L. CARVALHO Date: \_\_\_\_\_, 2011

\_\_\_\_\_  
Ravi KAPUR

Date: \_\_\_\_\_, 2011

\_\_\_\_\_  
Paul VERNUCCI

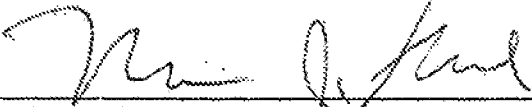
Date: \_\_\_\_\_, 2011

  
\_\_\_\_\_  
Zihua WANG

Date: 20 July, 2011

RECEIVED AND AGREED TO BY ASSIGNEE:

By: \_\_\_\_\_



Date: 20 July, 2011

Name: Norman J. Kruse  
Title: Assistant Secretary, Verinata Health, Inc.