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| <b>PATENT ASSIGNMENT COVER SHEET</b> |
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Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT6334016

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|------------------------------|---------------------------|
| <b>SUBMISSION TYPE:</b>      | NEW ASSIGNMENT            |
| <b>NATURE OF CONVEYANCE:</b> | PATENT SECURITY AGREEMENT |

**CONVEYING PARTY DATA**

| Name                      | Execution Date |
|---------------------------|----------------|
| INVITAE CORPORATION       | 10/02/2020     |
| GOOD START GENETICS, INC. | 10/02/2020     |
| SINGULAR BIO, INC.        | 10/02/2020     |
| YOUSCRIPT, LLC            | 10/02/2020     |

**RECEIVING PARTY DATA**

|                        |                                    |
|------------------------|------------------------------------|
| <b>Name:</b>           | PERCEPTIVE CREDIT HOLDINGS III, LP |
| <b>Street Address:</b> | 51 ASTOR PLACE, 10TH FLOOR         |
| <b>City:</b>           | NEW YORK                           |
| <b>State/Country:</b>  | NEW YORK                           |
| <b>Postal Code:</b>    | 10003                              |

**PROPERTY NUMBERS Total: 60**

| Property Type       | Number   |
|---------------------|----------|
| Application Number: | 13348626 |
| Application Number: | 14099821 |
| Application Number: | 15098272 |
| Application Number: | 15513374 |
| Application Number: | 15514957 |
| Application Number: | 15661396 |
| Application Number: | 15711760 |
| Application Number: | 16506287 |
| Application Number: | 13488142 |
| Application Number: | 13616788 |
| Application Number: | 13667575 |
| Application Number: | 14984644 |
| Application Number: | 14057673 |
| Application Number: | 14073500 |
| Application Number: | 14293568 |
| Application Number: | 14329243 |
| Application Number: | 14388314 |

PATENT

| <b>Property Type</b>       | <b>Number</b> |
|----------------------------|---------------|
| <b>Application Number:</b> | 14466281      |
| <b>Application Number:</b> | 14604165      |
| <b>Application Number:</b> | 14710229      |
| <b>Application Number:</b> | 14792716      |
| <b>Application Number:</b> | 14826595      |
| <b>Application Number:</b> | 14858637      |
| <b>Application Number:</b> | 14886858      |
| <b>Application Number:</b> | 14959162      |
| <b>Application Number:</b> | 14994325      |
| <b>Application Number:</b> | 14995354      |
| <b>Application Number:</b> | 15029807      |
| <b>Application Number:</b> | 15266717      |
| <b>Application Number:</b> | 15266726      |
| <b>Application Number:</b> | 15396936      |
| <b>Application Number:</b> | 15818165      |
| <b>Application Number:</b> | 16074370      |
| <b>Application Number:</b> | 16111909      |
| <b>Application Number:</b> | 16117248      |
| <b>Application Number:</b> | 16985980      |
| <b>Application Number:</b> | 16997517      |
| <b>Application Number:</b> | 17000054      |
| <b>Application Number:</b> | 29518525      |
| <b>Application Number:</b> | 15581971      |
| <b>Application Number:</b> | 13455766      |
| <b>Application Number:</b> | 14616224      |
| <b>Application Number:</b> | 14806096      |
| <b>Application Number:</b> | 14995946      |
| <b>Application Number:</b> | 15008100      |
| <b>Application Number:</b> | 14603323      |
| <b>Application Number:</b> | 14949097      |
| <b>Application Number:</b> | 15675234      |
| <b>Application Number:</b> | 16842089      |
| <b>Application Number:</b> | 15523134      |
| <b>Application Number:</b> | 15551788      |
| <b>Application Number:</b> | 16304516      |
| <b>Application Number:</b> | 16329816      |
| <b>Application Number:</b> | 63029163      |
| <b>Application Number:</b> | 12031327      |

| Property Type       | Number   |
|---------------------|----------|
| Application Number: | 13316144 |
| Application Number: | 13647246 |
| Application Number: | 14170367 |
| Application Number: | 16264397 |
| Application Number: | 16839920 |

**CORRESPONDENCE DATA**

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|                                |             |
|--------------------------------|-------------|
| <b>ATTORNEY DOCKET NUMBER:</b> | 72295.51    |
| <b>NAME OF SUBMITTER:</b>      | TUAN DINH   |
| <b>SIGNATURE:</b>              | /Tuan Dinh/ |
| <b>DATE SIGNED:</b>            | 10/02/2020  |

**Total Attachments: 11**

- source=Invitae - Patent Security Agreement (Sub Guarantors)#page1.tif
- source=Invitae - Patent Security Agreement (Sub Guarantors)#page2.tif
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- source=Invitae - Patent Security Agreement (Sub Guarantors)#page4.tif
- source=Invitae - Patent Security Agreement (Sub Guarantors)#page5.tif
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- source=Invitae - Patent Security Agreement (Sub Guarantors)#page10.tif
- source=Invitae - Patent Security Agreement (Sub Guarantors)#page11.tif

**PATENT SECURITY AGREEMENT**

This PATENT SECURITY AGREEMENT, dated as of October 2, 2020 (this “*Patent Security Agreement*”), made by each of the signatories hereto (together with any other entity that may become a party hereto as provided herein, the “*Patent Grantors*”), is in favor of Perceptive Credit Holdings III, LP, as administrative agent for the Secured Parties (in such capacity, together with its successors and assigns, the “*Administrative Agent*”).

W I T N E S S E T H:

WHEREAS, the Patent Grantors are party to a Security Agreement dated as of October 2, 2020 (as amended or otherwise modified from time to time, the “*Security Agreement*”) in favor of the Administrative Agent, pursuant to which the Patent Grantors are required to execute and deliver this Patent Security Agreement (capitalized terms used but not otherwise defined herein shall have the meanings given to them in the Security Agreement);

WHEREAS, pursuant to the terms of the Security Agreement, each Patent Grantor has created in favor of the Administrative Agent a security interest in, and the Administrative Agent has become a secured creditor with respect to, the Patent Collateral (as defined below);

NOW, THEREFORE, in consideration of the premises and to induce the Administrative Agent and the Lender to enter into the Credit Agreement and to induce the Lender to make their respective extensions of credit to the Borrower thereunder, each Patent Grantor hereby grants to the Administrative Agent, for the ratable benefit of the Secured Parties, a security interest in all of the following property now owned or at any time hereafter acquired by such Patent Grantor or in which such Patent Grantor now has or at any time in the future may acquire any right, title or interest (collectively, the “*Patent Collateral*”), as collateral security for the complete payment and performance when due (whether at the stated maturity, by acceleration or otherwise) of all Secured Obligations:

(a) all Patents of such Patent Grantor, including, without limitation, the registered and applied-for Patents of such Grantor listed on **Schedule 1** attached hereto;

(b) to the extent not covered by **clause (a)**, all Proceeds of any of the foregoing;  
and

(c) to the extent not covered by **clause (a)**, all causes of action arising prior to or after the date hereof for infringement of any of the Patents.

Notwithstanding anything herein to the contrary, the Patent Collateral shall not include any Excluded Assets.

The security interest granted pursuant to this Patent Security Agreement is granted in conjunction with the security interest granted to the Administrative Agent pursuant to the Security Agreement, and the Patent Grantors hereby acknowledge and affirm that the rights and remedies of the Administrative Agent with respect to the security interest in the Patents made and granted hereby are more fully set forth in the Security Agreement. In the event that any provision

of this Patent Security Agreement is deemed to conflict with the Security Agreement, the provisions of the Security Agreement shall govern.

Each Patent Grantor hereby authorizes and requests that the Commissioner of Patents and Trademarks record this Patent Security Agreement.

THIS PATENT SECURITY AGREEMENT AND THE RIGHTS AND OBLIGATIONS OF THE PARTIES HEREUNDER SHALL BE GOVERNED BY, AND CONSTRUED IN ACCORDANCE WITH, THE LAW OF THE STATE OF NEW YORK, WITHOUT REGARD TO PRINCIPLES OF CONFLICTS OF LAWS THAT WOULD RESULT IN THE APPLICATION OF THE LAWS OF ANY OTHER JURISDICTION; PROVIDED THAT SECTION 5-1401 OF THE NEW YORK GENERAL OBLIGATIONS LAW SHALL APPLY.

This Patent Security Agreement may be executed by one or more of the parties to this Patent Security Agreement on any number of separate counterparts, and all of said counterparts taken together shall be deemed to constitute one and the same instrument. Delivery of an executed signature page of this Patent Security Agreement by facsimile transmission or electronic transmission (in PDF format) shall be effective as delivery of a manually executed counterpart hereof.

*[Signature Pages Follow]*



IN WITNESS WHEREOF, each Patent Grantor has caused this Patent Security Agreement to be executed and delivered by its duly authorized officer as of the date first above written.

INVITAE CORPORATION

By: \_\_\_\_\_  
Name: Shelly Guyer  
Title: Chief Financial Officer

GOOD START GENETICS, INC.

By: \_\_\_\_\_  
Name: Shelly Guyer  
Title: Chief Financial Officer

SINGULAR BIO, INC.

By: Tom Brida  
Name: Tom Brida  
Title: President

YOUSCRIPT, LLC

By: Tom Brida  
Name: Tom Brida  
Title: President

Address:  
c/o Invitae Corporation  
1400 16th Street  
San Francisco, CA 94103  
Attn: Shelly Guyer, CFO





Accepted and Agreed:  
PERCEPTIVE CREDIT HOLDINGS III, LP, as Collateral Agent

By: PERCEPTIVE CREDIT OPPORTUNITIES GP, LLC, its general partner

By \_\_\_\_\_  
Name: Sandeep Dixit  
Title: Chief Credit Officer

By  \_\_\_\_\_  
Name: Sam Chawla  
Title: Portfolio Manager

Perceptive Credit Holdings III, LP  
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**PATENTS**

Patent Registrations and Applications

**INVITAE CORPORATION**

Schedule 1

| Title   | Country       | Registration No./<br>Registration Date | Application No./<br>Application Date | Case Status |
|---|---------------|--|--------------------------------------|-------------|
| 1. SYSTEMS AND METHODS FOR OBTAINING AND MANAGING SEQUENCING DATA   | United States | 8,600,683<br>12/3/2013                 | 13/348,626<br>1/11/2012              | Registered  |
| 2. MULTIPLEX NUCLEIC ACID DETECTION METHODS   | United States | 9,624,533<br>4/18/2017                 | 14/099,821<br>12/6/2013              | Registered  |
| 3. METHODS, SYSTEMS AND PROCESSES OF IDENTIFYING GENETIC VARIATION IN HIGHLY SIMILAR GENES                      | United States | 10395760<br>8/27/2019                  | 15/098,272<br>4/13/2016              | Registered  |
| 4. METHODS, SYSTEMS AND PROCESSES OF DE NOVO ASSEMBLY OF SEQUENCING READS                                       | United States |  | 15/513,374<br>10/9/2015              | Published   |
| 5. UNIVERSAL BLOCKING OLIGO SYSTEM AND IMPROVED HYBRIDIZATION CAPTURE METHODS FOR MULTIPLEXED CAPTURE REACTIONS | United States | 10,648,103<br>5/12/2020                | 15/514,957<br>10/8/2015              | Registered  |
| 6. BLOOD SAMPLING SYSTEM AND METHOD   | United States |  | 15/661,396<br>7/27/2017              | Published   |
| 7. METHODS, SYSTEMS AND PROCESSES OF IDENTIFYING GENETIC VARIATIONS   | United States |  | 15/711,760<br>9/11/2017              | Published   |
| 8. METHODS, SYSTEMS AND PROCESSES OF IDENTIFYING GENETIC VARIATION IN HIGHLY SIMILAR GENES                      | United States |  | 16/506,287<br>7/9/2019               | Published   |

**GOOD START GENETICS, INC.**

|     | <b>Title</b>   | <b>Country</b> | <b>Registration No./<br/>Registration Date</b> | <b>Application No./<br/>Application Date</b> | <b>Case Status</b> |
|-----|--|----------------|--|--|--------------------|
| 1.  | ANALYSIS METHODS   | United States  | 9,228,233<br>1/5/2016                          | 13,616,788<br>9/14/2012                      | Registered         |
| 2.  | ANALYSIS METHODS   | United States  | 9,822,409<br>11/21/2017                        | 14//984,644<br>12/30/2015                    | Registered         |
| 3.  | ANALYSIS METHODS   | United States  | 10,370,710<br>8/6/2019                         | 15,818,165<br>11/20/2017                     | Registered         |
| 4.  | VARIANT DATABASE   | United States  | 8,812,422<br>8/19/2014                         | 13,667,575<br>11/2/2012                      | Registered         |
| 5.  | VARIANT DATABASE   | United States  | 9,298,804<br>3/29/2016                         | 14/329,243<br>7/11/2014                      | Registered         |
| 6.  | DETERMINING THE CLINICAL SIGNIFICANCE OF VARIANT SEQUENCES   | United States  |  | 13,488,142<br>6/4/2012                       | Published          |
| 7.  | DETERMINING THE CLINICAL SIGNIFICANCE OF VARIANT SEQUENCES   | United States  |  | 16,997,517<br>8/19/2020                      | Pending            |
| 8.  | METHODS AND SYSTEMS FOR IDENTIFYING CONTAMINATION IN SAMPLES | United States  |  | 14/073,500<br>11/6/2013                      | Published          |
| 9.  | METHODS AND SYSTEMS FOR STORING SEQUENCE READ DATA           | United States  | 8,847,799<br>9/30/2014                         | 14/293,568<br>6/2/2014                       | Registered         |
| 10. | METHODS AND SYSTEMS FOR STORING SEQUENCE READ DATA           | United States  | 8,976,049<br>3/10/2015                         | 14/466,281<br>8/22/2014                      | Registered         |
| 11. | METHODS AND SYSTEMS FOR STORING SEQUENCE READ DATA           | United States  | 9,292,527<br>3/22/2016                         | 14/604,165<br>1/23/2015                      | Registered         |
| 12. | METHODS AND SYSTEMS FOR STORING SEQUENCE READ DATA           | United States  | 9,535,920<br>1/3/2017                          | 14/959,162<br>12/4/2015                      | Registered         |
| 13. | METHODS AND SYSTEMS FOR STORING SEQUENCE READ DATA           | United States  | 10,706,017<br>7/7/2020                         | 15/396,936<br>1/3/2017                       | Registered         |
| 14. | METHODS FOR DETERMINING CARRIER STATUS                       | United States  |  | 14/057,673<br>10/18/2013                     | Published          |
| 15. | METHOD FOR DETECTING ANEUPLOIDY                              | United States  |  | 14/710,229<br>5/12/2015                      | Published          |
| 16. | SYSTEMS AND METHODS FOR GENETIC ANALYSIS                     | United States  |  | 14/826,595<br>8/14/2015                      | Published          |

|     |   |               |                          |                          |                        |
|-----|---|---------------|--------------------------|--------------------------|------------------------|
| 17. | SYSTEMS AND METHODS FOR GENETIC ANALYSIS  | United States |                          | 17/000,054<br>8/21/2020  | Pending                |
| 18. | PROCESS CONTROL FOR INCREASED ROBUSTNESS OF GENETIC ASSAYS  | United States | 10,429,399<br>10/1/2019  | 14/858,637<br>9/18/2015  | Registered             |
| 19. | SCREENING FOR STRUCTURAL VARIANTS   | United States |                          | 16/117,248<br>8/30/2018  | Published              |
| 20. | PRE-IMPLANTATION GENETIC SCREENING AND ANEUPLOIDY DETECTION   | United States |                          | 14/886,858<br>10/19/2015 | Published              |
| 21. | DEVICES AND SYSTEMS FOR BARCODING INDIVIDUAL WELLS AND VESSELS  | United States | 10061953<br>8/28/2018    | 14/994,325<br>1/13/2016  | Registered             |
| 22. | DEVICES AND SYSTEMS FOR BARCODING INDIVIDUAL WELLS AND VESSELS  | United States | D773,070<br>11/29/2016   | 29/518,525<br>2/24/2015  | Registered             |
| 23. | DEVICES AND SYSTEMS FOR BARCODING INDIVIDUAL WELLS AND VESSELS  | United States | 10,445,543<br>10/15/2019 | 16/111,909<br>8/24/2018  | Registered             |
| 24. | METHODS OF QUALITY CONTROL USING SINGLE-NUCLEOTIDE POLYMORPHISMS IN PREIMPLANTATION GENETIC SCREENING | United States |                          | 14/995,354<br>1/14/2016  | Published              |
| 25. | METHODS OF QUALITY CONTROL USING SINGLE-NUCLEOTIDE POLYMORPHISMS IN PREIMPLANTATION GENETIC SCREENING | United States |                          | 16/985,980<br>8/5/2020   | Pending                |
| 26. | RAPID ANEUPLOIDY DETECTION  | United States | 10,053,729<br>8/21/2018  | 14/388,314<br>9/26/2014  | Registered<br>Watching |
| 27. | RAPID ANEUPLOIDY DETECTION  | United States |                          | 14/792,716<br>7/7/2015   | Published<br>Watching  |
| 28. | SYSTEMS AND METHODS FOR GENETIC TESTING   | United States |                          | 15/266,717<br>9/15/2016  | Published              |
| 29. | SAMPLE RETRIEVAL AND GENETIC ANALYSIS THEREOF   | United States |                          | 15/266,726<br>9/15/2016  | Published              |
| 30. | VARIANT DETECTION OF SEQUENCING ASSAYS  | United States |                          | 16/074,370<br>7/31/2018  | Published              |
| 31. | METHODS FOR COPY NUMBER DETERMINATION   | United States |                          | 15/029,807<br>4/15/2016  | Published              |

**SINGULAR BIO, INC.**

| Title  | Country       | Reg. No./ Reg. Date     | Application No./ Application Date | Case Status |
|--|---------------|-------------------------|-----------------------------------|-------------|
| 1. METHODS FOR MAPPING BAR-CODED MOLECULES FOR STRUCTURAL VARIATION DETECTION AND SEQUENCING | United States |                         | 15/581,971<br>04/28/2017          | Published   |
| 2. ARRAYS AND METHODS OF USE   | United States | 9,057,730<br>6/16/2015  | 13/455,766<br>4/25/2012           | Registered  |
| 3. ARRAYS AND METHODS OF USE   | United States | 9,556,429<br>1/31/2017  | 14/616,224<br>2/6/2015            | Registered  |
| 4. ARRAYS AND METHODS OF USE   | United States | 9,481,883<br>11/1/2016  | 14/806,096<br>7/22/2015           | Registered  |
| 5. ARRAYS AND METHODS OF USE   | United States | 9,376,677<br>6/28/2016  | 14/995,946<br>1/14/2016           | Registered  |
| 6. ARRAYS AND METHODS OF USE   | United States |                         | 15/008,100<br>01/27/2016          | Published   |
| 7. ASSAYS FOR SINGLE MOLECULE DETECTION AND USE THEREOF                                      | United States | 9,212,394<br>12/15/2015 | 14/603,323                        | Registered  |
| 8. ASSAYS FOR SINGLE MOLECULE DETECTION AND USE THEREOF                                      | United States | 9,758,814<br>09/12/2017 | 14/949,097                        | Registered  |
| 9. ASSAYS FOR SINGLE MOLECULE DETECTION AND USE THEREOF                                      | United States | 10,626,450<br>4/21/2020 | 15/675,234<br>08/11/2017          | Registered  |
| 10. ASSAYS FOR SINGLE MOLECULE DETECTION   | United States |                         | 16/842,089<br>4/7/2020            | Pending     |
| 11. ASSAYS FOR SINGLE MOLECULE DETECTION AND USE THEREOF                                     | United States |                         | 15/523,134<br>04/28/2017          | Published   |
| 12. ASSAYS FOR SINGLE MOLECULE DETECTION AND USE THEREOF                                     | United States |                         | 15/551,788<br>08/17/2017          | Published   |
| 13. ASSAYS FOR SINGLE MOLECULE DETECTION AND USE THEREOF                                     | United States |                         | 16/304,516<br>11/26/2018          | Published   |
| 14. SYSTEMS AND METHODS FOR SINGLE MOLECULE QUANTIFICATION                                   | United States |                         | 16/329,816<br>03/01/2019          | Published   |
| 15. METHODS FOR DETERMINING A GENETIC VARIATION  | United States |                         | 63/029,163<br>5/22/2020           | Pending     |

**YOUSCRIPT LLC**

| Title   | Country       | Reg. No./<br>Reg. Date  | Application No./<br>Application Date | Case Status |
|---|---------------|-------------------------|--------------------------------------|-------------|
| 1. GENETIC DATA ANALYSIS AND DATABASE TOOLS   | United States | 8,099,298<br>1/17/2012  | 12/031,327<br>2/14/2008              | Registered  |
| 2. GENETIC DATA ANALYSIS AND DATABASE TOOLS   | United States | 8,311,851<br>11/13/2012 | 13/316,144<br>12/9/2011              | Registered  |
| 3. GENETIC DATA ANALYSIS AND DATABASE TOOLS   | United States | 8,676,608<br>3/18/2014  | 13/647,246<br>10/8/2012              | Registered  |
| 4. SYSTEMS AND METHODS FOR QUANTIFICATION AND PRESENTATION OF MEDICAL RISK ARISING FROM UNKNOWN FACTORS | United States | 10,210,312<br>2/19/2019 | 14/170,367<br>1/31/2014              | Registered  |
| 5. SYSTEMS AND METHODS FOR QUANTIFICATION AND PRESENTATION OF MEDICAL RISK ARISING FROM UNKNOWN FACTORS | United States |                         | 16/264,397<br>1/31/2019              | Published   |
| 6. GENETIC DATA ANALYSIS AND DATABASE TOOLS   | United States |                         | 16/839,920<br>4/3/2020               | Pending     |

**PATENT**

**RECORDED: 10/02/2020**

**REEL: 054234 FRAME: 0885**