503705756 02/23/2016

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1 Stylesheet Version v1.2 EPAS ID: PAT3752397

| SUBMISSION TYPE:      | NEW ASSIGNMENT |
|-----------------------|----------------|
| NATURE OF CONVEYANCE: | ASSIGNMENT     |

#### **CONVEYING PARTY DATA**

| Name         | Execution Date |  |
|--------------|----------------|--|
| Mehmet Toner | 09/20/2011     |  |

#### **RECEIVING PARTY DATA**

| Name:                    | THE GENERAL HOSPITAL CORPORATION           |
|--------------------------|--|
| Street Address:          | 55 FRUIT STREET                            |
| City:                    | BOSTON                                     |
| State/Country:           | MASSACHUSETTS                              |
| Postal Code:             | 02114                                      |
|                          |  |
| Name:                    | GPB SCIENTIFIC, LLC                        |
| Name:<br>Street Address: | GPB SCIENTIFIC, LLC  800 EAST LEIGH STREET |
|                          | ·  |
| Street Address:          | 800 EAST LEIGH STREET                      |

#### **PROPERTY NUMBERS Total: 1**

| Property Type       | Number   |  |  |  |
|---------------------|----------|--|--|--|
| Application Number: | 14705239 |  |  |  |

#### **CORRESPONDENCE DATA**

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| ATTORNEY DOCKET NUMBER: | 26101-0024004    |
|-------------------------|------------------|
| NAME OF SUBMITTER:      | LINDSIE CAHILL   |
| SIGNATURE:              | /LINDSIE CAHILL/ |
| DATE SIGNED:            | 02/23/2016       |

PATENT 503705756 REEL: 037895 FRAME: 0617

| Total Attachments: 21   |
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PATENT REEL: 037895 FRAME: 0618

#### JOINT ASSIGNMENT

For good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I, Mehmet Toner, of Wellesley, Massachusetts, hereby confirm the assignment conveyed by me in the "CONFIDENTIAL INFORMATION AND INVENTION ASSIGNMENT AGREEMENT" executed by me for myself and by Michael Grisham on behalf of GPB, LLC (the abbreviated name for GPB Scientific, LLC) on March 26, 2003 (referred to hereinafter as "Agreement") and do hereby assign to:

THE GENERAL HOSPITAL CORPORATION, a Massachusetts corporation having a place of business at 55 Fruit Street, Boston, Massachusetts 02114; and

GPB Scientific, LLC, a Delaware corporation having a place of business at 800 East Leigh St., Richmond, Virginia 23219, which avers and acknowledges (as evidenced by the signature of Michael Grisham below) that "GPB, LLC" as referred to in the Agreement is the abbreviated name for GPB Scientific, LLC, and that "GPB, LLC" is and was intended to be the entity known as GPB Scientific, LLC;

and their successors and assigns (collectively referred to hereinafter as "Assignees"), as joint owners, my entire right, title, and interest throughout the world in and to any and all of the United States and foreign (including international) patent applications identified in the list of applications attached hereto as Appendix A (collectively referred to hereinafter as "Applications"), and in and to any and all inventions and improvements disclosed in any of said Applications (collectively referred to hereinafter "Inventions"), in and to any and all applications filed on any of said Inventions in the United States or in any foreign country, and in and to any and all applications filed and any and all patents granted on any said Inventions, including any and all United States and foreign patents, utility patents and models, continuations, continuations-in-part, divisionals, reexaminations, reissues, substitutions, extensions, supplementary protection certificates, and design registrations granted for any of said Inventions or on any of said Applications or any patent application claiming priority from any of said Applications in the United States and all countries throughout the world, said assignment including the right to claim priority to one or more of said Applications based on the filing date(s) of said Applications under the International Convention for the Protection of Industrial Property, the Patent Cooperation Treaty, the European Patent Convention, and all other treaties of like purposes; and this assignment also including, without limitation, any claims (known or unknown, suspected or unsuspected) of any nature that I have or may have against

Page 1 of 21

PATENT REEL: 037895 FRAME: 0619

any party for infringement of any of the patents and patent applications listed herein, and the right to sue for past infringement and to recover and retain damages and profits in respect thereof; and

I authorize the Assignees to apply in all countries in my name or in their own name for patents, utility models, design registrations, and like rights of exclusion and for inventors' certificates for said Inventions; and

I hereby covenant and agree that I will communicate to the Assignces or their nominees all facts known to me pertaining to said Inventions, and I agree for myself and my respective heirs, legal representatives, and assigns, without further compensation to perform such lawful acts and to sign such further applications, assignments, reissues, Preliminary Statements, and other lawful documents, testify in all legal proceedings, make all rightful oaths and declarations, and in general perform or cause to be performed all lawful acts necessary or proper to aid the Assignces or their nominees in obtaining, maintaining, and enforcing all lawful patent protection for the Inventions in the United States and in foreign countries; and

I hereby covenant that I have the full right to convey the entire right, title, and interest herein assigned and that I have not entered into and will not execute any assignment or agreement in conflict herewith.

The terms and covenants of this assignment shall inure to the benefit of the Assignees, their successors, assigns, and other legal representatives, and shall be binding upon me, and my heirs, legal representatives, and assigns.

Furthermore, the Assignees mutually agree to cooperate with each other in all reasonable requests regarding the execution of license agreements and/or sub-license agreements pertaining to any of said Inventions or Applications or patents or applications relating thereto.

| Mehmestover                                  | . Date: | 09/20/2011 |
|--|---------|------------|
| MEHMET TONER                                 |         |            |
| SIGNATURE WITNESSED BY: By: Lyna Slubblifuld | Date: _ | 9/20/2011  |
| Print Name:  By: Daniel Munic                | Date: _ | 9/20/2011  |
| Print Name:                                  |         |            |

Page 2 of 21

| RECEIVED AND AGREED TO BY ASSIGN      | IEES:   |
|---------------------------------------|---------|
| For GPB Scientific, LLC:              | 9/29/11 |
| Michael Grisham                       | Date/   |
| Title: MANAGER                        |         |
| For The General Hospital Corporation: |         |
|                                       | ,       |
| Print Name:                           | Date    |
| Title:                                | •       |

APPENDIX A
MGH 3028 (V703; FR25594-0014, -0015, -0017, -0018, -0019, 26101-0014, -0016)

| MGH<br>Ref. | F&R Ref.          | Title   | Country      | Case<br>Type | Application No. | Filing<br>Date      | Toner Assignment Reel/Frame and Date Recorded |
|-------------|-------------------|---|--------------|--------------|-----------------|---------------------|---|
| 3028.03     | 26101-<br>0016002 | METHODS FOR<br>DETECTING<br>FETAL<br>ABNORMALITY        | us           | CON          | 12/702,614      | 09-<br>Feb-<br>2010 |   |
| 3028,15     | 25594-<br>0014HK1 | SYSTEMS AND<br>METHODS FOR<br>ENRICHMENT OF<br>ANALYTES | Hong<br>Kong | NP .         | 8112563.4       | 15-<br>Sep-<br>2006 |   |
| 3028.05     | 25594-<br>0017001 | SYSTEMS FOR<br>SIZE BASED<br>SEPARATION<br>AND ANALYSIS | US           | UTL          | 11/229,336      | 15-<br>Sep-<br>2005 | 017298/0153<br>March 11,<br>2006              |
| 3028.06     | 25594-<br>0019001 | BUSINESS<br>METHODS FOR<br>PRENATAL<br>DIAGNOSIS        | us ·         | UTL          | 11/229,332      | 15-<br>Sep-<br>2005 | 017298/0159<br>March 11,<br>2006              |
| 3028.01     | 25594-<br>0014001 | SYSTEM FOR<br>CELL<br>ENRICHMENT                        | US ,         | UTL          | 11/228,462      | 15-<br>Sep-<br>2005 | 017024/0282<br>January 17,<br>2006            |
| 3028.02     | 25594-<br>0015001 | SYSTEMS AND<br>METHODS FOR<br>ENRICHMENT OF<br>ANALYTES | US           | UTL          | 11/229,328      | 15-<br>Sep-<br>2005 | 016906/0081<br>December 16,<br>2005           |
| 3028.03     | 26101-<br>0016001 | METHODS FOR<br>DETECTING<br>FETAL<br>ABNORMALITY        | US           | UTL          | 11/228,454      | 15-<br>Sep-<br>2005 | 017298/0050<br>March 11,<br>2006              |

PATENT REEL: 037895 FRAME: 0622

| 3028.04 | 25594-<br>0018001 | KITS FOR<br>PRENATAL<br>TESTING                         | ບຣ        | UTL | 11/229,037        | 15-<br>Sep-<br>2005 | 016916/0586<br>December 19,<br>2005 |
|---------|-------------------|---|-----------|-----|-------------------|---------------------|-------------------------------------|
| 3028.07 | 26101-<br>0014WO1 | SYSTEMS AND<br>METHODS FOR<br>ENRICHMENT OF<br>ANALYTES | WIPO      | РСТ | PCT/US2006/036202 | 15-<br>Sep-<br>2006 | -                                   |
| 3028.08 | 26101-<br>0014EP1 | SYSTEMS AND<br>METHODS FOR<br>ENRICHMENT OF<br>ANALYTES | Europe    | NP  | 06803736.5        | 15-<br>Sep-<br>2006 |                                     |
| 3028.11 | 25594-<br>0014AU1 | SYSTEMS AND<br>METHODS FOR<br>ENRICHMENT OF<br>ANALYTES | Australia | NP  | 2006292394        | 15-<br>Sep-<br>2006 |                                     |
| 3028.09 | 26101-<br>0014CA1 | SYSTEMS AND<br>METHODS FOR<br>ENRICHMENT OF<br>ANALYTES | Canada    | NP  | 2,622,745         | 15-<br>Sep-<br>2006 |                                     |
| 3028.10 | 25594-<br>0014CN1 | SYSTEMS AND<br>METHODS FOR<br>ENRICHMENT OF<br>ANALYTES | China     | NP  | 200680042407.4    | 15-<br>Sep-<br>2006 |                                     |
| 3028.12 | 25594-<br>0014IL1 | SYSTEMS AND<br>METHODS FOR<br>ENRICHMENT OF<br>ANALYTES | Israel    | NP  | 190090            | 15-<br>Sep-<br>2006 |                                     |
| 3028.13 | 25594~<br>0014IN1 | SYSTEMS AND<br>METHODS FOR<br>ENRICHMENT OF<br>ANALYTES | India     | NP  | 2637/DELNP/2008   | 15-<br>Sep-<br>2006 | `                                   |

**PATENT** 

| 3028.14 25594<br>0014JF | FUNITOUS ISSUED OF | ЭР | NP | 2008-531396 | 15-<br>Sep-<br>2006 |  |
|-------------------------|--------------------|----|----|-------------|---------------------|--|
|-------------------------|--------------------|----|----|-------------|---------------------|--|

## MGH 2962/2813/3049 (V704; FR25594-0006, -0007, -0023)

| MGH<br>Ref. | F&R Ref.          | Title  | Country | Case<br>Type | Application No. | Filing<br>Date      | Toner Assignment Reel/Frame and Date Recorded |
|-------------|-------------------|--|---------|--------------|-----------------|---------------------|---|
| 2962.02     | 25594-<br>007P01  | DEVICES AND METHODS FOR ENRICHMENT AND ALTERATION OF CELLS AND OTHER PARTICLES                         | US      | PRO          | 60/704,067      | 29-<br>Jul-<br>2005 |   |
| 2813.       | 25594-<br>0006P01 | METHODS FOR<br>COLLECTING<br>CELLULAR<br>COMPONENTS BY<br>PREFERNTIALLY<br>LYSING CELLS OF<br>INTEREST | US      | PRO          | 60/668,415      | 05-<br>Apr-<br>2005 |   |
| 2962.01     | 25594-<br>0007001 | DEVICES AND<br>METHODS FOR<br>ENRICHMENT<br>AND ALTERATION<br>OF CELLS AND<br>OTHER<br>PARTICLES       | US      | UTL          | 11/227,904      | 15-<br>Sep-<br>2005 | 024047/0827<br>March 8,<br>2010               |
| 2813.03     | 25594-<br>0006001 | DEVICES AND<br>METHODS FOR<br>ENRICHMENT<br>AND ALTERATION<br>OF CELLS AND<br>OTHER<br>PARTICLES       | US      | CON          | 11/449,149      | 08-<br>Jun-<br>2006 | 024047/0787<br>March 8,<br>2010               |
| 3049.01     | 25594-<br>0023001 | DEVICES AND METHODS FOR ENRICHMENT AND ALTERATION OF CELLS AND OTHER PARTICLES                         | US      | CIP          | 11/323,971      | 29-<br>Dec-<br>2005 |   |

**PATENT** 

| 2813.02 | 25594-<br>0006W01 | DEVICES AND METHODS FOR ENRICHMENT AND ALTERATION OF CELLS AND OTHER PARTICLES | WIPO .             | PCT | PCT/US2006/012820 | 05-<br>Apr-<br>2006 |   |
|---------|-------------------|--|--------------------|-----|-------------------|---------------------|---|
| 3049.02 | 25594-<br>0023W01 | DEVICES AND METHODS FOR MAGNETIC ENRICHMENT OF CELLS AND OTHER PARTICLES       | WIPO               | PCT | PCT/US2006/036061 | 15-<br>Sep-<br>2006 |   |
| 2813.05 | 25594-<br>0006EP1 | DEVICES AND METHODS FOR ENRICHMENT AND ALTERATION OF CELLS AND OTHER PARTICLES | Europ <del>e</del> | №P  | 06740612.4        | 05~<br>Apr-<br>2006 |   |
| 3049.04 | 25594-<br>0023EP1 | DEVICES AND METHODS FOR MAGNETIC ENRICHMENT OF CELLS AND OTHER PARTICLES       | Europe             | NP  | 06814753.7        | 15-<br>Sep-<br>2006 |   |
| 2813.04 | 25594-<br>0006GB1 | DEVICES AND METHODS FOR ENRICHMENT AND ALTERATION OF CELLS AND OTHER PARTICLES | United<br>Kingdom  | NP  | 0612648.6         | 05-<br>Apr-<br>2006 | , |
| 2813.06 | 25594-<br>0006AU1 | DEVICES AND METHODS FOR ENRICHMENT AND ALTERATION OF CELLS AND OTHER PARTICLES | Australia          | NP  | 2006232103        | 05-<br>Apr-<br>2006 |   |

**PATENT** 

| 3049.05 | 25594-<br>0023AU1 | DEVICES AND METHODS FOR MAGNETIC ENRICHMENT OF CELLS AND OTHER PARTICLES                   | Australia | NP | 2006292490     | 15-<br>Sep-<br>2006 |     |
|---------|-------------------|--|-----------|----|----------------|---------------------|-----|
| 2813.07 | 25594-<br>0006CA1 | DEVICES AND METHODS FOR ENRICHMENT AND ALTERATION OF CELLS AND OTHER PARTICLES             | Canada    | ΝP | 2,601,480      | 05-<br>Apr~<br>2006 |     |
| 3049.03 | 25594-<br>0023CA1 | DEVICES AND METHODS FOR MAGNETIC ENRICHMENT OF CELLS AND OTHER PARTICLES                   | Canada    | NP | 2,622,779      | 15-<br>Sep-<br>2006 |     |
| 2813.09 | 25594-<br>0006CN1 | DEVICES AND METHODS FOR ENRICHMENT AND ALTERATION OF CELLS AND OTHER PARTICLES             | China     | NP | 200680019886.8 | 05-<br>Apr-<br>2006 | · · |
| 3049.06 | 25594-<br>0023CN1 | DEVICES AND METHODS FOR MAGNETIC ENRICHMENT OF CELLS AND OTHER PARTICLES                   | China     | ΝP | 200680041666.5 | 15-<br>Sep-<br>2006 |     |
| 3049.07 | 25594-<br>0023IL1 | DEVICES AND<br>METHODS FOR<br>MAGNETIC<br>ENRICHMENT OF<br>CELLS AND<br>OTHER<br>PARTICLES | Israel    | ΝP | 190091         | 15-<br>Sep-<br>2006 |     |

PATENT REEL: 037895 FRAME: 0627

| 2813.10 | 25594-<br>0006IN1 | DEVICES AND METHODS FOR ENRICHMENT AND ALTERATION OF CELLS AND OTHER PARTICLES | India        | NP | 4390/CHENP/07   | 05-<br>Apr-<br>2006 |   |
|---------|-------------------|--|--------------|----|-----------------|---------------------|---|
| 3049,08 | 25594-<br>0023IN1 | DEVICES AND METHODS FOR MAGNETIC ENRICHMENT OF CELLS AND OTHER PARTICLES       | India        | NP | 2058-DELNP/2008 | 15-<br>Sep-<br>2006 |   |
| 2813,08 | 25594-<br>00063P1 | DEVICES AND METHODS FOR ENRICHMENT AND ALTERATION OF CELLS AND OTHER PARTICLES | Japan        | NP | 2008-505514     | 05-<br>Apr-<br>2006 |   |
| 3049.09 | 25594-<br>0023JP1 | DEVICES AND METHODS FOR MAGNETIC ENRICHMENT OF CELLS AND OTHER PARTICLES       | Japan        | ΝP | 2008-531362     | 15-<br>Sep-<br>2006 | , |
| 3049.10 | 25594-<br>0023HK1 | DEVICES AND METHODS FOR MAGNETIC ENRICHMENT OF CELLS AND OTHER PARTICLES       | Hong<br>Kong | NP | 08112587.6      | 15-<br>Sep-<br>2006 |   |

**PATENT** 

Page 10 of 21 **REEL: 037895 FRAME: 0628** 

### MGH 3239/3511 (V719; FR26101-0024, 26118-0020)

| <del>~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~</del> | <del>,</del>       | <del>, , , , , , , , , , , , , , , , , , , </del>         |              |              |                   |                |   |
|--|--------------------|---|--------------|--------------|-------------------|----------------|---|
| MGH<br>Ref.                                      | F&R Ref.           | Title   | Country      | Case<br>Type | Application No.   | Filing<br>Date | Toner<br>Assignment<br>Reel/Frame<br>and Date<br>Recorded |
| 3239.01  | 26118-<br>0020P01  | Methods for<br>the Diagnosis<br>of Fetal<br>Abnormalities | US           | PRO          | 60/804,817        | 6/14/2006      | 018123/0036<br>August 16,<br>2006                         |
| 3511,01  | 26101-<br>0024001  | Methods for<br>the Diagnosis<br>of Fetal<br>Abnormalities | US           | UTL          | 11/763,245        | 6/14/2007      | 024047/0779<br>March 8,<br>2010                           |
| 3239.02.   | .26118~<br>0020001 | Analysis of<br>Rare Cell-<br>Enriched<br>Samples          | us           | UTL          | 11/762,750        | 6/13/2007      | 023286/0430<br>September<br>25, 2009                      |
| 3511.02  | 26101-<br>0024W01  | Methods for<br>the Diagnosis<br>of Fetal<br>Abnormalities | WIPO         | РСТ          | PCT/US2007/071250 | 6/14/2007      |   |
| 3239.03  | 26118-<br>0020WO1  | Analysis of<br>Rare Cell-<br>Enriched<br>Samples          | WIPO         | РСТ          | PCT/US2007/071149 | 6/13/2007      |   |
| 3511.03  | 26101-<br>0024EP1  | Methods for<br>the Diagnosis<br>of Fetal<br>Abnormalities | EP           | NP           | 07784442.1        | 6/14/2007      | ,   |
| 3511.03  | 26101-<br>0024EP2  | Methods for<br>the Diagnosis<br>of Fetal<br>Abnormalties  | Europe       | DIV          | 11159371.1        | 6/14/2007      |   |
| 3511.03  | 26101-<br>0024HK1  | Methods for<br>the Diagnosis<br>of Fetal<br>Abnormalities | Hong<br>Kong | NP           | 09107599.1        | 6/14/2007      |   |

MGH 3240/3510 (V722; FR26051-0021, -0025)

| MGH Ref. Title Country Case Type Application No. Filing Toner Assign |
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Page 11 of 21

|         |                   |  |           |       |                   |             | Reel/Frame<br>and Date<br>Recorded |
|---------|-------------------|--|-----------|-------|-------------------|-------------|------------------------------------|
| 3240.01 | 26051-<br>0021P01 | Rare Cell<br>Analysis Using<br>Sample<br>Splitting and<br>DNA Tags | US        | PRO   | 60/804,819        | 6/14/2006   | August 16,<br>2006<br>018123/0739  |
| 3510.01 | 26101-<br>0025001 | Rare Cell<br>Analysis Using<br>Sample<br>Splitting and<br>DNA Tags | US        | UTL . | 11/763,421        | 6/14/2007   | 023865/0919<br>January 28,<br>2010 |
| 3240.03 | 26101-<br>0021001 | Rare Cell<br>Analysis Using<br>Sample<br>Splitting and<br>DNA Tags | US        | UTL   | 11/762,747        | 6/13/2007 · | 024049/0342<br>March 8,<br>2010    |
| 3510.04 | 26101-<br>0025002 | Rare Cell<br>Analysis Using<br>Sample<br>Splitting and<br>DNA Tags | US        | CON   | 12/230,628        | 9/2/2008    | 023866/0072<br>January 28,<br>2010 |
| 3510.02 | 26101-<br>0025WO1 | Rare Cell<br>Analysis Using<br>Sample<br>Splitting and<br>DNA Tags | WIPO      | PCT   | PCT/US2007/071256 | 6/14/2007   |                                    |
| 3240.02 | 26051-<br>0021WO1 | Rare Cell<br>Analysis Using<br>Sample<br>Splitting and<br>DNA Tags | WIPO      | PCT   | PCT/US2007/071148 | 6/13/2007   |                                    |
| 3510.03 | 26101-<br>0025EP1 | Rare Cell<br>Analysis Using<br>Sample<br>Splitting and<br>DNA Tags | Europe    | NP    | 07784444.7        | 6/14/2007   | ·                                  |
| 3510.07 | 26101-<br>0025AU1 | Rare Cell<br>Analysis Using<br>Sample<br>Splitting and<br>DNA Tags | Australia | NP    | 2007260676        | 6/14/2007   |                                    |

**PATENT** 

| 3510.06 | 26101-<br>0025CA1 | Rare Cell<br>Analysis Using<br>Sample<br>Splitting and<br>DNA Tags | Canada       | NP | 2,655,272      | 6/14/2007 |  |
|---------|-------------------|--|--------------|----|----------------|-----------|--|
| 3510.05 | 26101-<br>0025CN1 | Rare Cell<br>Analysis Using<br>Sample<br>Splitting and<br>DNA Tags | China        | NP | 200780030309.3 | 6/14/2007 |  |
| 3510.05 | 26101-<br>0025HK1 | Rare Cell<br>Analysis Using<br>Sample<br>Splitting and<br>DNA Tags | Hong<br>Kong | NP | 10108859.1     | 6/14/2007 |  |
| 3510.03 | 25594-<br>0025HK1 | Rare Cell<br>Analysis Using<br>Sample<br>Splitting and<br>DNA Tags | Hong<br>Kong | NP | 09107598.2     | 6/14/2007 |  |

PATENT

# MGH 3873 (V744; FR25594-0026)

| MGH<br>Ref. | F&R Ref.          | Title   | Country | Case<br>Type | Application No.   | Filing<br>Date  | Toner<br>Assignment<br>Reel/Frame<br>and Date<br>Recorded |
|-------------|-------------------|---|---------|--------------|-------------------|-----------------|---|
| 3873.       | n/a               | DIAGNOSIS OF<br>FETAL<br>ABNORMALITIES<br>USING<br>NUCLEATED RED<br>BLOOD | US      | PRO          | 60/949,227        | 11-Jul-<br>2007 |   |
| 3873.02     | 25594-<br>0026001 | DIAGNOSIS OF<br>FETAL<br>ABNORMALITIES<br>USING<br>NUCLEATED RED<br>BLOOD | US      | UTL.         | 12/172,158        | 11-Jul-<br>2008 | <b>~~</b>   |
| 3873.04     | n/a               | DIAGNOSIS OF<br>FETAL<br>ABNORMALITIES<br>USING<br>NUCLEATED RED<br>BLOOD | WIPO    | РСТ          | PCT/US2008/069879 | 11-Jul-<br>2008 |   |

**PATENT** 

### MGH 2918 (FR26051-0008, -0009, -0011, -0012, 25994-0010)

| MGH<br>Ref. | F&R Ref.          | Title  | Country | Case<br>Type | Application No. | Filing Date           | Toner<br>Assignment<br>Reel/Frame<br>and Date<br>Recorded |
|-------------|-------------------|--|---------|--------------|-----------------|-----------------------|---|
| 2918        | 26051-<br>0008003 | DEVICES AND METHODS FOR ENRICHMENT AND ALTERATION OF CIRCULATING TUMOR CELLS AND OTHER PARTICLES | US      | UTL          | 12/500,541      | 7/9/2009              |   |
| 2918        | 26051-<br>0008GB1 | DEVICES AND METHODS FOR ENRICHMENT AND ALTERATION OF CIRCULATING TUMOR CELLS AND OTHER PARTICLES | GB      | ΝP           | 612649.4        | 4/5/2006              |   |
| 2918        | 26051-<br>0008GB2 | DEVICES AND METHODS FOR ENRICHMENT AND ALTERATION OF CIRCULATING TUMOR CELLS AND OTHER PARTICLES | GB      | NP           | 1017732.7       | 4/5/2006              |   |
| 2918        | 26051-<br>0011002 | DEVICES AND METHODS FOR ENRICHMENT AND ALTERATION OF CIRCULATING TUMOR CELLS AND OTHER PARTICLES | US      | UTL.         | 12/511,028      | 7/28/200 <del>9</del> |   |

Page 15 of 21

PATENT

| 2918.01 | 26051-<br>0008P01 | DEVICES AND<br>METHODS<br>FOR<br>SEPARATING<br>EPITHELIAL<br>CELLS FROM<br>BLOOD                 | US | PRV | 60/703,833 | 7/29/2005   |                                    |
|---------|-------------------|--|----|-----|------------|-------------|------------------------------------|
| 2918.02 | 26051-<br>0009001 | DEVICES AND METHODS FOR ENRICHMENT AND ALTERATION OF CIRCULATING TUMOR CELLS AND OTHER PARTICLES | US | UTL | 11/323,945 | 12/29/2005. | 018387/0686<br>October 13,<br>2006 |
| 2918.03 | 26051-<br>0011001 | DEVICES AND METHODS FOR ENRICHMENT AND ALTERATION OF CIRCULATING TUMOR CELLS AND OTHER PARTICLES | US | UTL | 11/323,962 | 12/29/2005  | 018387/0686<br>October 13,<br>2006 |
| 2918.04 | 25594-<br>0010001 | DEVICES AND METHODS FOR ENRICHMENT AND ALTERATION OF CIRCULATING TUMOR CELLS AND OTHER PARTICLES | us | UTL | 11/323,946 | 12/29/2020  | 018387/0686<br>October 13,<br>2006 |
| 2918.05 | 25594-<br>0012001 | DEVICES AND METHODS FOR ENRICHMENT AND ALTERATION OF CIRCULATING TUMOR CELLS AND OTHER PARTICLES | US | UTL | 11/324,041 | 12/29/2005  | 018387/0686<br>October 13,<br>2006 |

**PATENT** 

| ,       | ····               |  | <del>,</del> | ,   |                    | <del>/</del> |                                      |
|---------|--------------------|--|--------------|-----|--------------------|--------------|--------------------------------------|
| 2918.06 | 25594-<br>0008001  | DEVICES AND METHODS FOR ENRICHMENT AND ALTERATION OF CIRCULATING TUMOR CELLS AND OTHER PARTICLES | US           | UTL | 11/322,790 .       | 12/29/2005   | 018387/0686<br>October 13,<br>2006   |
| 2918.07 | 25594-<br>0008WO1  | DEVICES AND METHODS FOR ENRICHMENT AND ALTERATION OF CIRCULATING TÜMOR CELLS AND OTHER PARTICLES | WIPO         | РСТ | PCT/US2006/012778` | 4/5/2006     |                                      |
| 2918.09 | 26051~<br>.0008002 | DEVICES AND METHODS FOR ENRICHMENT AND ALTERATION OF CIRCULATING TUMOR CELLS AND OTHER PARTICLES | US           | UTL | 11/449,161         | 6/8/2006     | 021611/0738<br>September<br>30, 2008 |
| 2918.1  | 26051-<br>00083P1  | DEVICES AND METHODS FOR ENRICHMENT AND ALTERATION OF CIRCULATING TUMOR CELLS AND OTHER PARTICLES | JP           | NP  | 2008-505508        | 4/5/2006     |                                      |
| 2918.11 | 26051-<br>0008EP1  | DEVICES AND METHODS FOR ENRICHMENT AND ALTERATION OF CIRCULATING TUMOR CELLS                     | EP           | NΡ  | 6749394            | 4/5/2006     |                                      |

**PATENT** 

| AND OTHER PARTICIES | <br>~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | <br>*** | <br> | ~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~ | _ | *************************************** |
|---------------------|--|---------|------|--|---|---|
| DAGTICIEC           |  |         |      | AND OTHER                              |   |   |
| PARTICLES           |  |         |      | PARTICLES                              |   |   |

## MGH 2554

| MGH<br>Ref. | F&R Ref. | Title  | Country      | Case<br>Type | Application No. | Filing<br>Date   | Toner<br>Assignment<br>Reel/Frame<br>and Date<br>Recorded |
|-------------|----------|--|--------------|--------------|-----------------|------------------|---|
| 2554.01     |          | System for<br>delivering a<br>diluted solution of<br>blood from a<br>sample collection<br>tube | US           | PROV         | 60/549,680      | March<br>3, 2004 |   |
| 2554.02     |          | System for delivering a diluted solution   | US           | UTL          | 11/071,270      | March<br>3, 2005 | 016982/0340<br>January 6,<br>2006                         |
| 2554.03     |          | System for delivering a diluted solution   | WIPO         | PCT          | PCT/US05/07139  | March<br>3, 2005 | ,   |
| 2554.05     | ,        | System For<br>Delivering A<br>Diluted Solution   | Europe       | NP           | 05724645.6      | March<br>3, 2005 | ·   |
| 2554.06     |          | System for delivering a diluted solution   | Hong<br>Kong | NP           | 07110530.9      | March<br>3, 2005 |   |

**PATENT** 

## MGH 2555 (FR 25594-0005)

| MGH<br>Ref. | F&R Ref.          | Title  | Country   | Case<br>Type | Application No. | Filing<br>Date      | Toner<br>Assignment<br>Reel/Frame<br>and Date<br>Recorded |
|-------------|-------------------|--|-----------|--------------|-----------------|---------------------|---|
| 2555.02     | 25594-<br>0005002 | Magnetic Device<br>for Isolation of<br>Cells and<br>Biomolecules in a<br>Microfluidic<br>Environment | US        | CON          | 12/509,237      | July<br>24,<br>2009 |   |
| 2555.01     | 25994-<br>0005P01 | Magnetic Device<br>For Isolation Of<br>Cells And<br>Blomolecules In A<br>Microfluidic<br>Environment | US        | PROV         | 60/549,610      | March<br>3,<br>2004 |   |
| 2555.02     | 25594-<br>0005001 | Magnetic Device<br>For Isolation Of<br>Cells And<br>Blomolecules In A<br>Microfluidic<br>Environment | US        | UTL          | 11/071,679      | March<br>3,<br>2005 | 016916/0295<br>December 19,<br>2005                       |
| 2555.03     | 25594-<br>0005AU1 | Magnetic Device<br>For Isolation Of<br>Cells And<br>Biomolecules In A<br>Microfluidic<br>Environment | WIPO      | РСТ          | PCT/US05/007058 |                     | ٠   |
| 2555.06     | 25594-<br>0005AU1 | Magnetic Device For Isolation Of Cells And Biomolecules In A Microfluidic Environment                | Australia | NP           | 2005218622      |                     |   |

Page 19 of 21

PATENT

| 2555.04 | 25594-<br>0005CA1 | Magnetic Device<br>For Isolation Of<br>Cells And<br>Biomolecules In A<br>Microfluidic<br>Environment | Canada       | NP | 2,557,819       |   |
|---------|-------------------|--|--------------|----|-----------------|---|
| 2555.07 | 25594-<br>0005CN1 | Magnetic Device<br>For Isolation Of<br>Cells And<br>Biomolecules In A<br>Microfluidic<br>Environment | China        | NP | 200580006643.6  |   |
| 2555.08 | 25594-<br>0005EP1 | Magnetic Device<br>For Isolation Of<br>Cells And<br>Biomolecules In A<br>Microfluidic<br>Environment | Europe       | NP | 05724574.8      | · |
| 2555.10 | 25594-<br>0005HK1 | Magnetic Device<br>For Isolation Of<br>Cells And<br>Biomolecules In A<br>Microfluidic<br>Environment | Hong<br>Kong | NP | 08107010.3      |   |
| 2555.09 | 25594-<br>0005IN1 | Magnetic Device<br>For Isolation Of<br>Cells And<br>Biomolecules In A<br>Microfluidic<br>Environment | India        | NP | 3662/CHENP/2006 |   |
| 2555.05 | 25594-<br>000JP1  | Magnetic Device<br>For Isolation Of<br>Celis And<br>Biomolecules In A<br>Microfluidic<br>Environment | Japan .      | NP | 2007-502005.    |   |

Page 20 of 21

**PATENT** 

## MGH 3275 (FR 25594-0022)

**RECORDED: 02/23/2016** 

| MGH<br>Ref. | F&R Ref.          | Title                                     | Country | Case<br>Type | Application No.   | Filing<br>Date      | Toner<br>Assignment<br>Reel/Frame<br>and Date<br>Recorded |
|-------------|-------------------|---|---------|--------------|-------------------|---------------------|---|
| 3275        | 25994-<br>0022P01 | SELECTION OF<br>CELLS USING<br>BIOMARKERS | us      | PRO          | 60/820,778        | July<br>28,<br>2006 | 018210/0588<br>September 6,<br>2006                       |
| 3275.02     | 25994-<br>0022001 | SELECTION OF<br>CELLS USING<br>BIOMARKERS | US      | UTL          | 11/830,546        | July<br>30,<br>2007 |   |
| 3275.03     | 25994-<br>0022W01 | SELECTION OF<br>CELLS USING<br>BIOMARKERS | WIPO    | РСТ          | PCT/US2007/074759 | July<br>30,<br>2007 |   |

**PATENT** Page 21 of 21 **REEL: 037895 FRAME: 0639**