

## PATENT ASSIGNMENT COVER SHEET

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EPAS ID: PAT4784152

|                                                                                                                                                                                                 |                                       |
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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>                 |
| ROCHE DIAGNOSTICS OPERATIONS, INC.                                                                                                                                                              | 01/15/2014                            |
| <b>RECEIVING PARTY DATA</b>                                                                                                                                                                     |                                       |
| <b>Name:</b>                                                                                                                                                                                    | ROCHE MOLECULAR SYSTEMS, INC.         |
| <b>Street Address:</b>                                                                                                                                                                          | 4300 HACIENDA DRIVE                   |
| <b>City:</b>                                                                                                                                                                                    | PLEASANTON                            |
| <b>State/Country:</b>                                                                                                                                                                           | CALIFORNIA                            |
| <b>Postal Code:</b>                                                                                                                                                                             | 94588                                 |
| <b>PROPERTY NUMBERS Total: 1</b>                                                                                                                                                                |                                       |
| <b>Property Type</b>                                                                                                                                                                            | <b>Number</b>                         |
| <b>Application Number:</b>                                                                                                                                                                      | 15385020                              |
| <b>CORRESPONDENCE DATA</b>                                                                                                                                                                      |                                       |
| <b>Fax Number:</b>                                                                                                                                                                              | (317)237-1000                         |
| <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>                                                                                                                                                                                   | 317-237-0300                          |
| <b>Email:</b>                                                                                                                                                                                   | int eas@faegrebd.com                  |
| <b>Correspondent Name:</b>                                                                                                                                                                      | JESSICA L. VAN DALEN                  |
| <b>Address Line 1:</b>                                                                                                                                                                          | 300 NORTH MERIDIAN STREET, SUITE 2700 |
| <b>Address Line 4:</b>                                                                                                                                                                          | INDIANAPOLIS, INDIANA 46204           |
| <b>ATTORNEY DOCKET NUMBER:</b>                                                                                                                                                                  | ROCHE-P0096-03-US                     |
| <b>NAME OF SUBMITTER:</b>                                                                                                                                                                       | JESSICA L. VAN DALEN                  |
| <b>SIGNATURE:</b>                                                                                                                                                                               | /jessica l. van dalen/                |
| <b>DATE SIGNED:</b>                                                                                                                                                                             | 01/19/2018                            |
| <b>Total Attachments: 4</b>                                                                                                                                                                     |                                       |
| source=ROCHE-P0096-03-US Roche Diagnostics Operations Assignment to Roche Molecular Systems#page1.tif                                                                                           |                                       |
| source=ROCHE-P0096-03-US Roche Diagnostics Operations Assignment to Roche Molecular Systems#page2.tif                                                                                           |                                       |
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| source=ROCHE-P0096-03-US Roche Diagnostics Operations Assignment to Roche Molecular Systems#page4.tif                                                                                           |                                       |

# ASSIGNMENT

Assignment Effective As Of January 15, 2014

WHEREAS, ROCHE DIAGNOSTICS OPERATIONS, INC. of 9115 Hague Road, Indianapolis, Indiana 46250, United States of America, a company organized under the Laws of the State of Delaware, and hereinafter referred to as *ASSIGNOR*, is the owner of the following United States Patents and Patent Applications:

| Serial No. | Patent No. | Filing Date | Issue Date | Title                                                                         |
|------------|------------|-------------|------------|-------------------------------------------------------------------------------|
| 09/823711  | 6,691,041  | 3/30/2001   | 2/10/2004  | Method for the Efficiency-Corrected Real-Time Quantification of Nucleic Acids |
| 10/746993  |            | 12/24/2003  |            | Method for the Efficiency-Corrected Real-Time Quantification of Nucleic Acids |
| 10/549648  | 8,137,616  | 4/1/2004    | 3/20/2012  | System for Multi Color Real Time PCR                                          |
| 13/023407  |            | 2/8/2011    |            | System for Multi Color Real Time PCR                                          |
| 12/407339  |            | 3/19/2009   |            | Detection Format for Hot Start Real Time Polymerase Chain Reaction            |
| 11/912557  |            | 4/3/2006    |            | Thermocycling of a Block Comprising Multiple Sample                           |
| 12/963828  |            | 12/9/2010   |            | Thermocycling of a Block Comprising Multiple Sample                           |
| 60/741094  |            | 11/30/2005  |            | Process for DNA Decontamination                                               |
| 11/564441  |            | 11/29/2006  |            | Process for DNA Decontamination                                               |
| 12/481807  | 8,124,338  | 6/10/2009   | 2/28/2012  | Use of TDE for Isolation of Nucleic Acids                                     |
| 13/182691  |            | 7/14/2011   |            | Use of TDE for Isolation of Nucleic Acids                                     |
| 12/603648  |            | 10/22/2009  |            | Single-Cell mRNA Quantification with Real-Time RT-PCR                         |
| 12/546940  |            | 8/25/2009   |            | High-Density Multiwell-Plate                                                  |
| 12/261476  |            | 10/30/2008  |            | Method and Device for Purifying Nucleic Acids                                 |
| 12/582737  |            | 10/21/2009  |            | Lysis and Reverse Transcription for mRNA Quantification                       |
| 12/797878  |            | 6/10/2010   |            | Lysis and Reverse Transcription for mRNA Quantification                       |
| 12/406450  |            | 3/18/2009   |            | Nucleic Acid Amplification in the Presence of Modified Randomers              |
| 13/711846  |            | 12/12/2012  |            | Nucleic Acid Amplification in the Presence of Modified Randomers              |
| 12/623757  |            | 11/23/2009  |            | System and Method for Nucleic Acids Containing Fluid Processing               |
| 12/623785  |            | 11/23/2009  |            | Pipetting Device, Modular Pipetting Unit,                                     |

|           |  |            |                                                                                                                            |
|-----------|--|------------|----------------------------------------------------------------------------------------------------------------------------|
|           |  |            | Pipetting System and Method for Pipetting of Fluid Samples                                                                 |
| 13/008949 |  | 1/19/2011  | Lysis and Reverse Transcription for MRNA Quantification                                                                    |
| 12/623797 |  | 11/23/2009 | System and Method for the Automated Processing of Fluids, Method for Determining the Matching of Objects                   |
| 12/623774 |  | 11/23/2009 | System and Method for the Automated Extraction of Nucleic Acids                                                            |
| 12/641747 |  | 12/18/2009 | Dry Composition of Reaction Compounds with Stabilized Polymerase                                                           |
| 12/748535 |  | 3/29/2010  | Dye Composition for Liquid Transfer Control                                                                                |
| 12/748688 |  | 3/29/2010  | Fluid Transfer Control for Real-Time PCR                                                                                   |
| 12/705679 |  | 2/15/2010  | Solid Support for High-Throughput Nucleic Acid Analysis                                                                    |
| 12/709782 |  | 2/22/2010  | Miniaturized, High-Throughput Nucleic Acid Analysis                                                                        |
| 13/746812 |  | 1/22/2013  | Miniaturized, High-Throughput Nucleic Acid Analysis                                                                        |
| 13/862530 |  | 4/15/2013  | Set of Oligonucleotide Probes as Well as Methods and Uses Thereto                                                          |
| 12/963169 |  | 12/8/2010  | System and Method for Cycling Liquid Samples Through a Series of Temperature Excursions                                    |
| 13/295504 |  | 11/14/2011 | Instrument and Method for the Automated Thermal Treatment of Liquid Samples                                                |
| 13/236863 |  | 9/20/2011  | Instrument and Process for the Storing and/or Processing of Liquid Samples                                                 |
| 13/473010 |  | 5/16/2012  | Instrument and Method for Detecting Analytes                                                                               |
| 13/169110 |  | 6/27/2011  | Clonal PRE-Amplification in Emulsion                                                                                       |
| 13/224423 |  | 9/2/2011   | Relative Quantification Analysis of Multi-parametric PCR Experiments                                                       |
| 13/853830 |  | 3/29/2013  | Method for Cell Lysis and PCR Within The Same Reaction Chamber                                                             |
| 13/853838 |  | 3/29/2013  | Method for Cell Lysis in a PCR Reaction Buffer                                                                             |
| 13/411902 |  | 3/5/2012   | Type of Universal Probe for the Detection of Genomic Variants                                                              |
| 13/930638 |  | 6/28/2013  | High Resolution Melting Analysis as a Prescreening Tool                                                                    |
| 13/853841 |  | 3/29/2013  | Method for Cell Lysis and TR-PCR within the Same Reaction Vessel                                                           |
| 61/695913 |  | 8/31/2012  | Microfluidic Chip, Device and System for the Generation of Aqueous Droplets in Emulsion Oil for Nucleic Acid Amplification |

|           |  |           |  |                                                                                                                            |
|-----------|--|-----------|--|----------------------------------------------------------------------------------------------------------------------------|
| 14/016840 |  | 9/3/2013  |  | Microfluidic Chip, Device and System for the Generation of Aqueous Droplets in Emulsion Oil for Nucleic acid Amplification |
| 14/097694 |  | 12/5/2013 |  | Lysis and Reverse Transcription for MRNA Quantification                                                                    |

WHEREAS, ROCHE MOLECULAR SYSTEMS, INC., of 4300 Hacienda Drive, Pleasanton, California, United States of America, a Corporation organized under the Laws of the State of Delaware, hereinafter referred to as *ASSIGNEE*, is desirous of acquiring the entire rights, titles and interests in the said inventions, applications, issued patents, and in any Letters Patents which may be granted on the same in the United States of America and its territories;

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN: Be it known that, for valuable consideration, receipt of which is hereby acknowledged, *ASSIGNOR* has sold, assigned, and transferred, and by these presents do sell, assign and transfer unto said *ASSIGNEE*, and *ASSIGNEE'S* successors and assigns, all rights, titles and interests in and to the said inventions, said applications for United States Letters Patents, said Letters Patents, or any Letters Patents which may hereafter be granted on the same in the United States including any applications claiming priority under 35 U.S.C. §119(e), divisions, renewals, continuations in whole or in part, substitutions, conversions, reissues, reexaminations, prolongations or extensions thereof, said interest to be held and enjoyed by said *ASSIGNEE* as fully and exclusively as it would have been held and enjoyed by said *ASSIGNOR* had this assignment and transfer not been made, to the full end and term of any Letters Patents.

*ASSIGNOR* further agrees that it will, without charge to said *ASSIGNEE*, but at *ASSIGNEE'S* expense, cooperate with *ASSIGNEE* in the prosecution of said Patents and/or applications, execute, verify, acknowledge and deliver all such further papers, including applications for Letters Patent and for the reissue thereof, and instruments of assignment and transfer thereof, and will perform such other acts as *ASSIGNEE* lawfully may request, to obtain or maintain Letters Patents for said inventions and improvement in any and all countries, and to vest title thereto in said *ASSIGNEE*, or *ASSIGNEE'S* successors and assigns.

*IN TESTIMONY WHEREOF*, an authorized representative of the *ASSIGNOR* has hereunto signed his name to this assignment on the date indicated below and *ASSIGEE* has accepted on the date indicated below.

ROCHE DIAGNOSTICS OPERATIONS, INC.

D. Michael Young 1/15/14

D. Michael Young Date  
Vice President & Chief Intellectual Property Counsel

Accepted by:

ROCHE MOLECULAR SYSTEMS, INC.

Charles M. Doyle 10-14-2014

Name: Charles M. Doyle Date  
Title: Senior Director of Patents