

<b>PATENT ASSIGNMENT COVER SHEET</b>
--------------------------------------

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT5313436

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
HARLAN SAUL ROBINS	03/16/2015
CHRISTOPHER SCOTT CARLSON	03/12/2015
ROBERT J. LIVINGSTON	03/17/2015
RYAN O. EMERSON	03/12/2015
ANNA M. SHERWOOD	03/16/2015
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	ADAPTIVE BIOTECHNOLOGIES CORP.
<b>Street Address:</b>	1551 EASTLAKE AVENUE E., SUITE 200
<b>City:</b>	SEATTLE
<b>State/Country:</b>	WASHINGTON
<b>Postal Code:</b>	98102
<b>PROPERTY NUMBERS Total: 1</b>	
<b>Property Type</b>	<b>Number</b>
<b>Application Number:</b>	16242109
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	
<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>	2028427800
<b>Email:</b>	zpatdcdocketing@cooley.com
<b>Correspondent Name:</b>	COOLEY LLP / ADAPTIVE BIOTECHNOLOGIES
<b>Address Line 1:</b>	ATTN: PATENT GROUP
<b>Address Line 2:</b>	1299 PENNSYLVANIA AVENUE, NW, SUITE 700
<b>Address Line 4:</b>	WASHINGTON, D.C. 20004
<b>ATTORNEY DOCKET NUMBER:</b>	ADBS-001/06US 323310-2630
<b>NAME OF SUBMITTER:</b>	MICHAEL MCEVOY
<b>SIGNATURE:</b>	/Michael T. McEvoy/
<b>DATE SIGNED:</b>	01/08/2019
<b>Total Attachments: 7</b>	

source=ADBS-001-06US\_Assignment\_inventors\_to\_Adaptive\_parent\_fully\_executed#page1.tif  
source=ADBS-001-06US\_Assignment\_inventors\_to\_Adaptive\_parent\_fully\_executed#page2.tif  
source=ADBS-001-06US\_Assignment\_inventors\_to\_Adaptive\_parent\_fully\_executed#page3.tif  
source=ADBS-001-06US\_Assignment\_inventors\_to\_Adaptive\_parent\_fully\_executed#page4.tif  
source=ADBS-001-06US\_Assignment\_inventors\_to\_Adaptive\_parent\_fully\_executed#page5.tif  
source=ADBS-001-06US\_Assignment\_inventors\_to\_Adaptive\_parent\_fully\_executed#page6.tif  
source=ADBS-001-06US\_Assignment\_inventors\_to\_Adaptive\_parent\_fully\_executed#page7.tif

Attorney Docket No. ADBS-001/03US 323310-2098

PATENT

## COMBINED DECLARATION AND ASSIGNMENT

As below named inventors, Harlan Saul Robins, Christopher Scott Carlson, Robert J. Livingston, Ryan O. Emerson and Anna M. Sherwood, (each referred to as "Assignor") having made an invention(s) (the "Invention(s)") set forth in an application for patent of the United States, entitled **COMPOSITIONS AND METHODS FOR MEASURING AND CALIBRATING AMPLIFICATION BIAS IN MULTIPLEXED PCR REACTIONS**, and which is a:

- (1)  non-provisional application  
 (a)  to be filed herewith; or  
 (b)  bearing Application No. 14/381,967, and filed on March 8, 2013;
- (2)  non-provisional application  
 (a)  to be filed herewith; or  
 (b)  bearing Application No. 14/594,007, and filed on January 9, 2015; or
- (3)  PCT application  
 (a)  bearing Application No. , and filed on .

**WHEREAS**, Adaptive Biotechnologies Corporation, a corporation duly organized under and pursuant to the laws of Washington, and having its principal place of business at 1551 Eastlake Ave E., Suite 200, Seattle, WA 98102, its successors, legal representatives and assigns, (the "Assignee") is desirous of acquiring the entire right, title, and interest in and to said Invention; the application for patent identified above; the right to file applications for patent of the United States or other countries on the Invention; any application for patent of the United States or other countries claiming priority to these application; any provisional or other right to recover damages, including royalties, for prior infringements of these applications; and any patent of the United States or other countries that may be granted therefor or thereon.

**NOW, THEREFORE**, for good and sufficient consideration, the receipt of which is hereby acknowledged, and to the extent that the Assignor has not done so already via a prior agreement with the Assignee, or if the Assignor has already done so via a prior agreement with the Assignee then in confirmation of any obligation to do so in said prior agreement, the Assignor has sold, assigned, transferred, and set over, and by these presents does sell, assign, transfer, and set over, unto the Assignee, its successors, legal representatives, and assigns, the Assignor's entire right, title, and interest in:

- (a) the Invention(s);
- (b) the application for patent identified in paragraph (1), (2) and/or (3);
- (c) the right to file applications for patent of the United States or other countries on the Invention(s), including all rights under the Hague Convention, the

Paris Convention for the Protection of Industrial Property and under the Patent Cooperation Treaty;

(d) any application(s) for patent of the United States or other countries claiming the invention(s);

(e) any application(s) for patent of the United States or other countries claiming priority to the application for patent identified in paragraph (1), (2) and/or (3) or any application(s) for patent claiming the invention(s), including any division(s), continuation(s), and continuation(s)-in-part; and

(f) any provisional or other right to recover damages, including royalties, for prior infringements of any application for patent identified in the preceding paragraphs (b)-(e); and

(g) any patent(s) of the United States or other countries that may be granted for or on any application for patent identified in the preceding paragraphs (b) – (e), including any reissue(s) and extension(s) of said patent(s).

The above-granted rights, titles, and interests are to be held and enjoyed by the Assignee, for its own use and behalf and the use and behalf of its successors, legal representatives, and assigns, as fully and entirely as the same would have been held and enjoyed by the Assignor had this sale and assignment not been made.

The Assignor hereby represents to the Assignee, its successors, legal representatives, and assigns, that, at the time of execution and delivery of these presents, or if applicable, at such time said prior agreement was executed, the Assignor is a lawful owner of an undivided interest in the entire right, title, and interest in and to the invention(s), that the invention(s) are unencumbered, except, if applicable, by obligation to assign in accordance with said prior agreement, and that the Assignor has good and full right and lawful authority to sell and convey the same in the manner set forth herein.

The Assignor hereby covenants and agrees to and with the Assignee, its successors, legal representatives, and assigns, that the Assignor will sign all papers and documents, take all lawful oaths, and do all acts necessary or required to be done in connection with any and all proceedings for the procurement, maintenance, enforcement and defense of the invention(s), said applications, and said patents, including interference proceedings, without charge to the Assignor, its successors, legal representatives, and assigns, but at the cost and expense of the Assignee, its successors, legal representatives, and assigns.

The Assignor hereby authorizes and requests the attorneys of COOLEY LLP to insert in the spaces provided above the filing date, the application number, and the attorney docket number of the application identified in paragraph (1), (2) and/or (3) when known.

The Assignor hereby requests the Commissioner of Patents to issue said patents of the United States to the Assignee for the sole use and behalf of the Assignee, its successors, legal representatives, and assigns.

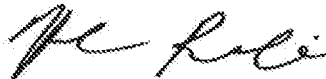
I hereby declare that the above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application. I have reviewed and understand the contents of the above-identified application, including the claims.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 C.F.R. § 1.56.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine or imprisonment of not more than five (5) years, or both.

Date: 3/16/15

By: 

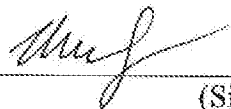
Name: **Harlan Saul ROBINS**  
Mailing Address:  
c/o Adaptive Biotechnologies Corp.  
1551 Eastlake Ave E., Suite 200  
Seattle, WA 98102

I certify that I know or have satisfactory evidence that Harlan Saul ROBINS signed this instrument of his/her own free will, as a voluntary act for the uses and purposes mentioned in the instrument.

Date 3/16/15  
(Type or Print)

Signed at ADAPTIVE BIOTECHNOLOGIES CORP.

MICHELLE LEE  
(Type or Print Name of Witness)

  
(Signature of Witness)

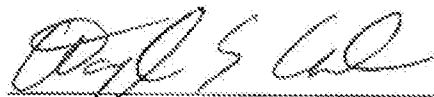
I hereby declare that the above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application. I have reviewed and understand the contents of the above-identified application, including the claims.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 C.F.R. § 1.56.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine or imprisonment of not more than five (5) years, or both.

Date: March 12, 2015

By: 

Name: **Christopher Scott CARLSON**  
Mailing Address:  
c/o Adaptive Biotechnologies Corp.  
1551 Eastlake Ave E., Suite 200  
Seattle, WA 98102

I certify that I know or have satisfactory evidence that Christopher Scott CARLSON signed this instrument of his/her own free will, as a voluntary act for the uses and purposes mentioned in the instrument.

Date 3/12/15  
(Type or Print)

Signed at ADAPTIVE BIOTECHNOLOGIES CORP.

MICHELLE LEE  
(Type or Print Name of Witness)

  
(Signature of Witness)

Attorney Docket No.: ADBS-001/03US 323310-2098

I hereby declare that the above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application. I have reviewed and understand the contents of the above-identified application, including the claims.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 C.F.R. § 1.56.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine or imprisonment of not more than five (5) years, or both.

Date: March 17, 2015

By:



Name: **Robert J. LIVINGSTON**

Mailing Address:

c/o Adaptive Biotechnologies Corp.  
1551 Eastlake Ave E., Suite 200  
Seattle, WA 98102

I certify that I know or have satisfactory evidence that Robert J. LIVINGSTON signed this instrument of his/her own free will, as a voluntary act for the uses and purposes mentioned in the instrument.

Date March 17, 2015  
(Type or Print)

Signed at ADAPTIVE BIOTECHNOLOGIES CORP.

Michelle Lee  
(Type or Print Name of Witness)

[Signature]  
(Signature of Witness)

COPY

Attorney Docket No.: ADBS-001/03US 323310-2098

I hereby declare that the above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application. I have reviewed and understand the contents of the above-identified application, including the claims.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 C.F.R. § 1.56.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine or imprisonment of not more than five (5) years, or both.

Date: 3/12/2015

By: 


Name: **Ryan O. EMERSON**  
Mailing Address:  
c/o Adaptive Biotechnologies Corp.  
1551 Eastlake Ave E., Suite 200  
Seattle, WA 98102

I certify that I know or have satisfactory evidence that Ryan O. EMERSON signed this instrument of his/her own free will, as a voluntary act for the uses and purposes mentioned in the instrument.

Date 3/12/15  
(Type or Print)

Signed at Adaptive Biotechnologies Corp

Michelle Lee  
(Type or Print Name of Witness)

  
(Signature of Witness)



I hereby declare that the above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application. I have reviewed and understand the contents of the above-identified application, including the claims.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 C.F.R. § 1.56.

I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. § 1001 by fine or imprisonment of not more than five (5) years, or both.

Date: 15-03-16

By: 

Name: Anna M. SHERWOOD  
Mailing Address:  
c/o Adaptive Biotechnologies Corp.  
1551 Eastlake Ave E., Suite 200  
Seattle, WA 98102

I certify that I know or have satisfactory evidence that Anna M. SHERWOOD signed this instrument of his/her own free will, as a voluntary act for the uses and purposes mentioned in the instrument.

Date 2015-03-16 1pm Signed at 100<sup>th</sup> Adaptive Biotech  
(Type or Print)

Stephen Buller  
(Type or Print Name of Witness)

  
(Signature of Witness)