

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT5008408

<b>SUBMISSION TYPE:</b>	NEW ASSIGNMENT
<b>NATURE OF CONVEYANCE:</b>	ASSIGNMENT
<b>CONVEYING PARTY DATA</b>	
<b>Name</b>	<b>Execution Date</b>
GABOR BUTORA	04/23/2018
MATTHEW STANTON	04/23/2018
THOMAS STEELE	04/19/2018
<b>RECEIVING PARTY DATA</b>	
<b>Name:</b>	MODERNATX, INC.
<b>Street Address:</b>	200 TECHNOLOGY SQUARE
<b>City:</b>	CAMBRIDGE
<b>State/Country:</b>	MASSACHUSETTS
<b>Postal Code:</b>	02139
<b>PROPERTY NUMBERS Total: 3</b>	
<b>Property Type</b>	<b>Number</b>
Application Number:	16008655
Application Number:	16008658
Application Number:	16008662
<b>CORRESPONDENCE DATA</b>	
<b>Fax Number:</b>	(617)937-2400
<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>	(617) 937-2403
<b>Email:</b>	fvandermaelen@cooley.com
<b>Correspondent Name:</b>	COOLEY LLP, ATTN: PATENT GROUP
<b>Address Line 1:</b>	1299 PENNSYLVANIA AVENUE, NW
<b>Address Line 2:</b>	SUITE 700
<b>Address Line 4:</b>	WASHINGTON, D.C. 20004
<b>ATTORNEY DOCKET NUMBER:</b>	MRNA-008
<b>NAME OF SUBMITTER:</b>	CHRISTINE C. PEMBERTON
<b>SIGNATURE:</b>	/Christine C. Pemberton/
<b>DATE SIGNED:</b>	06/15/2018
<b>Total Attachments: 7</b>	

source=MRNA-008 - Assignment#page1.tif  
source=MRNA-008 - Assignment#page2.tif  
source=MRNA-008 - Assignment#page3.tif  
source=MRNA-008 - Assignment#page4.tif  
source=MRNA-008 - Assignment#page5.tif  
source=MRNA-008 - Assignment#page6.tif  
source=MRNA-008 - Assignment#page7.tif

ASSIGNMENT

**Gabor BUTORA, Matthew STANTON, and Thomas STEELE** (each referred to as “Assignor”) have made an invention(s) (the “Invention(s)”) set forth in an application for patent entitled **MRNA CAP ANALOGS WITH MODIFIED PHOSPHATE LINKAGE**, and which is a:

- (1) ☐ provisional application
  - (a) ☐ to be filed herewith; or
  - (b) ☐ bearing Application No. , and filed on ;
- (2) ☒ non-provisional application
  - (a) ☐ to be filed herewith; or
  - (b) ☒ bearing Application No. 15/768,199, and filed on April 13, 2018; and/or
- (3) ☐ PCT application
  - (a) ☐ bearing Application No. , and filed on .

and/or
- (4) ☐ attached hereto.

**WHEREAS**, ModernaTX, Inc., having its principal place of business at 200 Technology Square, Cambridge, MA 02139, its successors, legal representatives and assigns, (the “Assignee”), is desirous of acquiring the entire right, title, and interest in: the Invention(s); the application(s) for patent identified above; the right to file applications for patent of the United States or other countries on the Invention(s); any application(s) for patent of the United States or other countries claiming priority to, and/or the benefit of, these applications; any provisional or other right to recover any and all past, present, and future damages, including royalties, for any and all past, present, and future infringements of these application(s); and any and all patent(s) 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 a predecessor in interest of the Assignee, or if the Assignor has already done so via a prior agreement with the Assignee or a predecessor in interest of 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(s) for patent identified above;
- (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, and all rights of claiming priority in any country of the world;
- (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, and/or the benefit of, at least one of the application(s) for patent identified above or any application(s) for patent claiming the Invention(s), including any priority application(s), substitute application(s), division(s), continuation(s), and continuation(s)-in-part;
- (f) any provisional or other right to recover any and all past, present, and future damages, including royalties, for any and all past, present, and future infringements of any application for patent identified in the preceding paragraphs (b)-(e) and of any and all patent(s) granted based thereon in the United States and in all other countries; 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), reexamination(s), revival(s), renewal(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, and that Assignor will not make or enter into any assignment, sale, agreement or encumbrance which would conflict with these presents.

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 application(s), and said patent(s), including interference and derivation proceedings, and any post-grant proceedings (e.g., opposition proceedings, post-grant reviews, *Inter partes* reviews, supplemental examinations, etc.) without charge to the Assignee, 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(s) identified above 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.

Date: 23 APR 2018 By: Gabor Butora  
Gabor Butora

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of Massachusetts )  
County of Middlesex ) ss.

On 4/23/18, before me, Andrea L. Crowell, Notary Public, personally appeared Gabor Butora, who proved to me on the basis of satisfactory evidence, to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument. REQUIRED SENTENCE IF NOTARIZED IN CALIFORNIA: I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Andrea L. Crowell


Signature of Notary Public



**ANDREA L. CROWELL**  
Notary Public  
Commonwealth of Massachusetts  
My Commission Expires  
January 3, 2025

Place Notary Seal Above

My Commission Expires: 1/3/2025

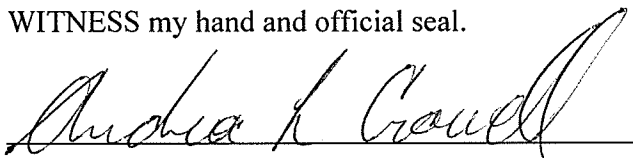
Date: 23 April 2018 By:   
Matthew Stanton

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of Massachusetts )  
County of Middlesex ) ss.

On 4/23/18, before me, Andrea L. Crowell, Notary Public, personally appeared Matthew Stanton, who proved to me on the basis of satisfactory evidence, to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument. REQUIRED SENTENCE IF NOTARIZED IN CALIFORNIA: I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.



Signature of Notary Public




**ANDREA L. CROWELL**  
Notary Public  
Commonwealth of Massachusetts  
My Commission Expires  
January 3, 2025

Place Notary Seal Above

My Commission Expires: 1/3/2025

Date: April 19, 2018

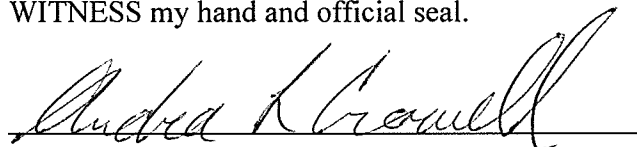
By:   
Thomas Steele

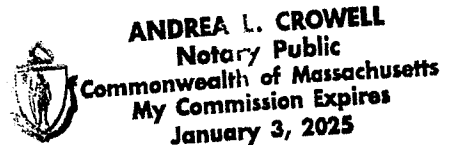
A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of Massachusetts )  
County of Middlesex ) ss.

On 4/19/2018, before me, Andrea Crowell, Notary Public, personally appeared Thomas Steele, who proved to me on the basis of satisfactory evidence, to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument. REQUIRED SENTENCE IF NOTARIZED IN CALIFORNIA: I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

  
Signature of Notary Public



Place Notary Seal Above

My Commission Expires: 1/3/2025



For and on behalf of ASSIGNEE:

Date: April 23, 2018By: Name: Debra J. MilasincicTitle: Head of Intellectual Property

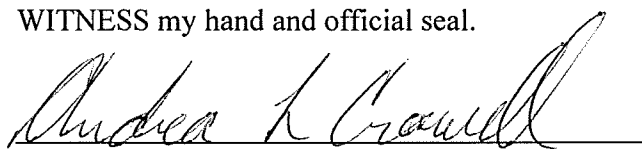
Company: ModernaTX, Inc.

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of Massachusetts )  
 ) ss.  
 County of Middlesex )

On 4/23/18, before me, Andrea L. Crowell, Notary Public, personally appeared Debra J. Milasincic, who proved to me on the basis of satisfactory evidence, to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument. REQUIRED SENTENCE IF NOTARIZED IN CALIFORNIA: I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.



Signature of Notary Public



**ANDREA L. CROWELL**  
**Notary Public**  
**Commonwealth of Massachusetts**  
**My Commission Expires**  
**January 3, 2025**

Place Notary Seal Above

My Commission Expires: 1/3/2025