504399360 06/06/2017

PATENT ASSIGNMENT COVER SHEET

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

CONVEYING PARTY DATA

| Name | Execution Date |
|-----------------------|----------------|
| MARK BERNINGER | 04/25/2017 |
| PUTHUPPARAMPIL SCARIA | 04/26/2017 |
| MARTIN WOODLE | 05/25/2017 |

RECEIVING PARTY DATA

| Name: | APARNA BIOSCIENCES CORPORATION (ALSO KNOWN AS APARNA BIOSCIENCES AND ALSO KNOWN AS APARNA BIOSCIENCES CORP.) | |
|-------------------|--------------------------------------------------------------------------------------------------------------|--|
| Street Address: | 12111 PARKLAWN DRIVE | |
| Internal Address: | SUITE 125 | |
| City: | ROCKVILLE | |
| State/Country: | MARYLAND | |
| Postal Code: | 20852-1707 | |

PROPERTY NUMBERS Total: 3

| Property Type | Number |
|---------------------|----------|
| Application Number: | 60995238 |
| Application Number: | 12680548 |
| Application Number: | 14754239 |

CORRESPONDENCE DATA

Fax Number: (206)359-8000

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Address Line 2: PATENT PROCUREMENT

Address Line 4: SEATTLE, WASHINGTON 98111-1247

| ATTORNEY DOCKET NUMBER: | 000966-8003.US01 |
|-------------------------|-------------------|
| NAME OF SUBMITTER: | TRICIA WILLIAMS |
| SIGNATURE: | /Tricia Williams/ |
| DATE SIGNED: | 06/06/2017 |

Total Attachments: 4

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ASSIGNMENT BY INVENTORS

This Assignment is by Mark BERNINGER residing at 1033 Main Street,
Gaithersburg, Maryland 20878; Puthupparampil SCARIA residing at 9602 Swallow Point
Way, Montgomery Village, Maryland 20886; and Martin WOODLE residing at 8205 Beech
Tree Road, Bethesda, Maryland 20817 (hereinafter referred to collectively as "ASSIGNORS"
and individually as "ASSIGNOR") have invented one or more certain inventions described in
U.S. Patent Application No. 12/680,548 filed October 6, 2010, which is a national stage
application of International Patent Application No. PCT/US08/78021 filed September 26, 2008,
which claims the benefit of U.S. Provisional Patent Application No. 60/995,238 filed
September 25, 2007. Each of the above-referenced patent applications is entitled "Therapeutic
and Vaccine Polyelectrolyte Nanoparticle Compositions."

Aparna Biosciences Corporation (also known as Aparna Biosciences and also known as Aparna Biosciences Corp.), a corporation of Maryland having its principal place of business at 12111 Parklawn Drive, Suite 125, Rockville, Maryland 20852-1707 ("ASSIGNEE"), desires to affirm its ownership of the entire right, title and interest in and to the Invention(s) and the Application, and in and to any patents (collectively, "Patents") that may be granted for the Invention(s) in the United States or in any foreign countries.

For valuable consideration, the receipt and sufficiency of which each ASSIGNOR acknowledges, each ASSIGNOR affirms they sold, assigned, and transferred to ASSIGNEE, its successors, legal representatives and assigns, the entire right, title and interest in and to: the Invention(s), the Application, and any Patents; any divisions, continuations, and continuations-in-part of the Application, and any other application claiming priority rights from the Application; any reissues, reexaminations, or extensions of any and all Patents; the right to file foreign applications directly in the name of ASSIGNEE; and the right to claim priority rights deriving from the Application (collectively, the "Rights"). Each ASSIGNOR affirms that they conveyed their rights in the invention to ASSIGNEE at the time the invention was made by virtue of their employment/engagement with ASSIGNEE. Each ASSIGNOR agrees to not sign any writing or do any act conflicting with this assignment, and, without further compensation, sign all documents and do such additional acts as ASSIGNEE deems necessary or

desirable to: perfect ASSIGNEE's enjoyment of the Rights; conduct proceedings regarding the Rights, including any litigation or interference proceedings; or perfect or defend title to the Rights. ASSIGNORS request the Commissioner of Patents to issue any Patent of the United States that may be issued on the Invention(s) to ASSIGNEE. This Assignment may be executed in counterparts.

| <u>— ASSIGNORS</u> — | | | | |
|-----------------------------------|--------------|-----------------------------------------------------------------------------------|--|--|
| Date: A pril 25, 20 | Signature: | Mark Berninger | | |
| Date: | Signature: | Puthupparampil Scaria | | |
| Date: | Signature: _ | Martin Woodle | | |
| ASSIGNEE | | | | |
| On behalf of Aparna Biosciences C | orporation - | Signature Martin Woodle Printed Name May 25, 2017 Date CEO AMARABABioscience | | |

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ASSIGNMENT BY INVENTORS

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desirable to: perfect ASSIGNEE's enjoyment of the Rights; conduct proceedings regarding the Rights, including any litigation or interference proceedings; or perfect or defend title to the Rights. ASSIGNORS request the Commissioner of Patents to issue any Patent of the United States that may be issued on the Invention(s) to ASSIGNEE. This Assignment may be executed in counterparts.

- ASSIGNORS -

| Date: | Signature: | Mark Berninger |
|-------|------------------------------------------|---------------------------------------|
| Date: | April 26, 2017 Signature: | |
| Date: | M _A , 25, 2017 Signature: | Martin Woodle |
| | | <u>NEE</u> |
| On be | half of Aparna Biosciences Corporation . | Signature MARTY Uso de Printed Name |
| | • | Date LEO APARNA Bioscien |

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