

## PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1  
 Stylesheet Version v1.2

EPAS ID: PAT4114347

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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> |
|                                                                                                                                                                                                 | JOHN J. DUNN                       | 06/10/2011            |
| <b>RECEIVING PARTY DATA</b>                                                                                                                                                                     |                                    |                       |
| <b>Name:</b>                                                                                                                                                                                    | BROOKHAVEN SCIENCE ASSOCIATES, LLC |                       |
| <b>Street Address:</b>                                                                                                                                                                          | 40 BROOKHAVEN AVE.                 |                       |
| <b>Internal Address:</b>                                                                                                                                                                        | BUILDING 460                       |                       |
| <b>City:</b>                                                                                                                                                                                    | UPTON                              |                       |
| <b>State/Country:</b>                                                                                                                                                                           | NEW YORK                           |                       |
| <b>Postal Code:</b>                                                                                                                                                                             | 19973                              |                       |
| <b>PROPERTY NUMBERS Total: 1</b>                                                                                                                                                                |                                    |                       |
|                                                                                                                                                                                                 | <b>Property Type</b>               | <b>Number</b>         |
|                                                                                                                                                                                                 | Application Number:                | 15049438              |
| <b>CORRESPONDENCE DATA</b>                                                                                                                                                                      |                                    |                       |
| <b>Fax Number:</b>                                                                                                                                                                              | (312)474-0448                      |                       |
| <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>                                                                                                                                                                                   | 312-474-6300                       |                       |
| <b>Email:</b>                                                                                                                                                                                   | kdola@marshallip.com               |                       |
| <b>Correspondent Name:</b>                                                                                                                                                                      | MARSHALL, GERSTEIN & BORUN LLP     |                       |
| <b>Address Line 1:</b>                                                                                                                                                                          | 233 S. WACKER DRIVE                |                       |
| <b>Address Line 2:</b>                                                                                                                                                                          | 6300 WILLIS TOWER                  |                       |
| <b>Address Line 4:</b>                                                                                                                                                                          | CHICAGO, ILLINOIS 60606            |                       |
| <b>ATTORNEY DOCKET NUMBER:</b>                                                                                                                                                                  | 31315/44557A2DV2                   |                       |
| <b>NAME OF SUBMITTER:</b>                                                                                                                                                                       | KRISTEN A. DOLA                    |                       |
| <b>SIGNATURE:</b>                                                                                                                                                                               | /Kristen A. Dola/                  |                       |
| <b>DATE SIGNED:</b>                                                                                                                                                                             | 10/26/2016                         |                       |
| <b>Total Attachments: 2</b>                                                                                                                                                                     |                                    |                       |
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| source=Dunn to Brookhaven#page2.tif                                                                                                                                                             |                                    |                       |

## ASSIGNMENT

Individual

WHEREAS, I John J. Dunn citizen of the United States, residing in Bellport, County of Suffolk, State of New York, ASSIGNOR, am an inventor of an invention and certain new and useful improvements disclosed in an application entitled "Chimeric OspA Genes, Proteins, and Methods of Use Thereof"; I filed the said non-provisional application at the United States Letters Patent on 05/13/2011 accorded S.N. 13/107,796; and

WHEREAS, the **Brookhaven Science Associates**, incorporated in Delaware (BSA), having an office at **40 Brookhaven Avenue, Building 460, Upton, NY 11973-5000**, desires to acquire the entire right, title, and interest in, under and to the said invention and improvements which are disclosed in the said application, and any Letters Patent wherever they may be issued thereon;

WHEREAS, BSA has elected to take title to said invention pursuant to P.L. 98-620 and has informed the U.S. Department of Energy of that election and the U.S. Department of Energy has not exercised any exceptions thereto under either 401.3(a)(2) or (3) of P.L. 98-620, but retains the right to do so;

NOW, THEREFORE, to all whom it may concern, be it known that for good and valuable consideration, the receipt of which is hereby acknowledged, I, the undersigned ASSIGNOR by these presents do sell, assign, and transfer unto BSA the entire right, title, and interest in, under and to the said invention and improvements as disclosed in the said application as well as any divisional, continuation, renewal, substitute, reissue, reexamination, conversion, and all other applications for Letters Patent or the legal equivalent thereof wherever they may be filed, and in, under and to any and all Letters Patent or the legal equivalent thereof wherever they may be issued thereon including all original, reissue, reexamination, and extensions of said Letters Patent or the legal equivalent thereof;

AND I HEREBY authorize and request the issuing authority whose duty it is to issue patents or other evidence or forms of industrial property protection on applications as aforesaid, to issue the same to and in the name of the Brookhaven Science Associates;

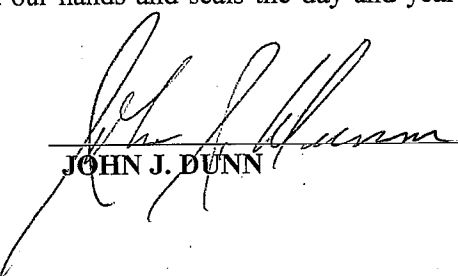
AND I HEREBY covenant and agree that I have full right to convey the entire right, title and interest herein assigned, and that I have not executed, and will not execute, any assignment, grant, mortgage, license or other agreement in conflict herewith;

AND I HEREBY agree to make, execute, and deliver unto BSA any and all rightful oaths, declarations, assignments, powers of attorney, affidavits, statements, and all other documents or instruments; I agree to execute all renewal, divisional, continuation, substitute, reexamination, foreign, reissue, and all other applications; I agree to communicate to BSA, its successors, legal representatives, or its assigns, any facts known to us respecting the said invention and improvements and the history thereof; I agree to testify as to the same in or incident to the prosecution or conduct of any and all applications, before as well as after the issuance of any Letters Patent thereon, or in the adjustment or settlement of any interferences, litigations, or other actions or proceedings that said applications may encounter or in which they may become involved as may be required by BSA, or its duly authorized representative; and I agree to generally do everything possible to aid BSA in protecting the said invention and improvements, and in obtaining, maintaining, defending and enforcing proper protection for the said invention and improvements as may be requested by BSA, its successors, legal representatives or its assigns, except that any expenses arising through extending such assistance will be paid for by proper arrangement with BSA;

AND I HEREBY agree and acknowledge that the sale, assignment and transfer of rights and property set forth herein is and shall be irrevocable and binding upon the heirs, assigns, representatives and successors of each undersigned ASSIGNOR and shall extend to the successors, assigns and nominees of BSA.

IN TESTIMONY WHEREOF, I hereunto set our hands and seals the day and year set opposite our respective signatures.

Date: 6/10/11

  
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JOHN J. DUNN

L.S.

State of

**WILLIAM S. RUSSELL**  
Notary Public, State of NY  
No. 01RU6215070

County of

**Qualified in Suffolk County**  
**Commission Expires December 12, 2013**

On this 10 day of June, 2011, before me, a Notary Public in and for the State and County aforesaid, personally appeared **JOHN J. DUNN**, to me known and known to me to be the person of that name, who signed and sealed the foregoing instrument, and s/he acknowledged the same to be her/his free act and deed.

  
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NOTARY PUBLIC