Portions of this Exhibit, indicated by the mark “[***],” were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant’s application requesting confidential treatment pursuant to Rule 406 of the Securities Act of 1933, as amended

PUBLIC HEALTH SERVICE

PATENT LICENSE AGREEMENT—EXCLUSIVE and NON-EXCLUSIVE

COVER PAGE

For PHS internal use only:

Patent License Application Number:
A-380-2003

Serial Number(s) of Licensed Patent(s) and/or Patent Application(s):

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<th>Country</th>
<th>Serial Number</th>
<th>Filing Date</th>
<th>DHHS ref</th>
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<td>07/27/1999</td>
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Licensee:
Aridis Pharmaceuticals, LLC

Cooperative Research and Development Agreement (CRADA) Number (if applicable):

Additional Remarks:

Public Benefit(s): Vaccine against Rotavirus infection

This Patent License Agreement, hereinafter referred to as the “Agreement”, consists of this Cover Page, an attached Agreement, a Signature Page, Appendix A (List of Patent(s) and/or Patent Application(s)), Appendix B (Fields of Use and Territory and Biological Materials and Documentation), Appendix C (Royalties), Appendix D (Modifications), Appendix E (Benchmarks), Appendix F (Commercial Development Plan) and Appendix G (Plan for Developing Countries). The Parties to this Agreement are:

1) The National Institutes of Health (“NIH”), the Centers for Disease Control and Prevention (“CDC”), or the Food and Drug Administration (“FDA”), hereinafter singly or collectively referred to as “PHS”, agencies of the United States Public Health Service within the Department of Health and Human Services (“DHHS”); and

2) The person, corporation, or institution identified above and/or on the Signature Page, having offices at the address indicated on the Signature Page, hereinafter referred to as “Licensee”.

PHS and Licensee agree as follows:

1. BACKGROUND

1.01 In the course of conducting biomedical and behavioral research, PHS investigators made inventions that may have commercial applicability.
1.02 Pursuant to the Registrant’s application requesting confidential treatment pursuant to Rule 406 of the Securities Act of 1933, as amended, portions of this Exhibit, indicated by the mark “[***],” were omitted and have been filed separately with the Securities and Exchange Commission.

2. Definitions

2.01 “Benchmarks” mean the performance milestones that are set forth in Appendix E.

2.02 “Commercial Development Plan” means the written commercialization plan attached as Appendix F.

2.03 “First Commercial Sale” means the initial transfer by or on behalf of Licensee or its sublicensees of Licensed Product(s) or the initial practice of a Licensed Process(es) by or on behalf of Licensee or its sublicensees in exchange for cash or some equivalent to which value can be assigned for the purpose of determining Net Sales.

2.04 “Government” means the Government of the United States of America.

2.05 “Licensed Fields of Use” means the fields of use identified in Appendix B.

2.06 “Licensed Patent Rights” shall mean:

   a) Patent applications (including provisional patent applications and PCT patent applications) and/or patents listed in Appendix A, all divisions and continuations of these applications, all patents issuing from such applications, divisions, and continuations, and any reissues, reexaminations, and extensions of all such patents;

   b) to the extent that the following contain one or more claims directed to the invention or inventions disclosed in a) above: i) continuations-in-part of a) above; ii) all divisions and continuations of these continuations-in-part; iii) all patents issuing from such continuations-in-part, divisions, and continuations; iv) priority patent application(s) of a) above; and v) any reissues, reexaminations, and extensions of all such patents;

   c) to the extent that the following contain one or more claims directed to the invention or inventions disclosed in a) above: all counterpart foreign and U.S. patent applications and patents to a) and b) above, including those listed in Appendix A.

Licensed Patent Rights shall not include b) or c) above to the extent that they claim new matter that is not the subject matter disclosed in a) above, except to the extent included under an amendment to this Agreement pursuant to a CRADA between Licensee and the PHS investigators. For any patent rights under b) or c) above having claims to subject matter disclosed in a) above and other claims to subject matter not disclosed in a) above, those claims corresponding to a) above shall be included in the Licensed Patent Rights.

2.07 “Licensed Process(es)” means processes which, in the course of being practiced would be within the scope of one or more claims of the Licensed Patent Rights that have not been held unpatentable, invalid or unenforceable by an appealed or unappealable judgment of a court of competent jurisdiction, and these same processes when practiced in conjunction with the Biological Materials and their derivatives.

2.08 “Licensed Product(s)” means tangible materials which, in the course of manufacture, use, sale, or importation would be within the scope of one or more claims of the Licensed Patent Rights that have not been held unpatentable, invalid or unenforceable by an appealed or unappealable judgment of a court of competent jurisdiction and Biological Materials and their derivatives and pharmaceutical formulations made from said Biological Materials and their derivatives.

2.09 “Exclusive Licensed Territory” means the geographical area identified in Appendix B.

2.10 “Non-Exclusive Licensed Territory” means the geographical area identified in Appendix B.

2.11 “Licensed Territories” mean Exclusive Licensed Territory and Non-Exclusive Licensed Territory.

2.12 “Net Sales” means the total gross receipts for sales of Licensed Products or practice of Licensed Processes by or on behalf of Licensee or its sublicensees, and from leasing, renting, or otherwise making Licensed Products available to others without sale or other dispositions, whether invoiced or not, less returns and allowances, packing costs, insurance costs, freight out, taxes or excise duties imposed on the transaction (if separately invoiced), and wholesaler and cash discounts in amounts customary in the trade to the extent actually granted. No deductions shall be made for commissions paid to individuals, whether they be with independent sales agencies or regularly employed by Licensee, or sublicensees, and on its payroll, or for the cost of collections.
“Practical Application” means to manufacture in the case of a composition or product, to practice in the case of a process or method, or to operate in the case of a machine or system; and in each case, under such conditions as to establish that the invention is being utilized and that its benefits are to the extent permitted by law or Government regulations available to the public on reasonable terms.

“Research License” means a nontransferable, nonexclusive license to make and to use the Licensed Products or Licensed Processes as defined by the Licensed Patent Rights for purposes of research and not for purposes of commercial manufacture or distribution or in lieu of purchase.

“Public Sector” means the government of a Developing Country, or any entity empowered by the government of a Developing Country to act for said government in matters applicable to this Agreement, organizations within the United Nations system including the World Health Global Organization and UNICEF, and other non-profit agencies which may purchase drugs or vaccines for delivery, manufacture and/or sale in Developing Countries.

“Private Sector” means all other parties other than the Public Sector.

“Developing Country” means countries eligible for support from The Global Alliance for Vaccines and Immunization (GAVI) or successor organization, which at the effective date of this Agreement are those countries with a Gross National Product of less than US $1,000 per capita per year, and at the effective date of this Agreement include the countries listed in Appendix G.

“Biological Materials” means the materials listed in Appendix B, which include human-bovine reassortment rotavirus strains. For the sake of clarification, some of the Biological Materials may have been generated under a CRADA between PHS and the original commercial developer of this technology, Wyeth Pharmaceuticals, Inc. (“Wyeth”) and may be subject to the terms and conditions of L-030-1987/1 and L-008-1989/1, which includes in part Paragraph 12.05 as related to Wyeth of this Agreement.

3. GRANT OF RIGHTS

3.01 PHS hereby grants and Licensee accepts, subject to the terms and conditions of this Agreement, an exclusive license under the Licensed Patent Rights and the exclusive rights to use the Biological Materials in the Exclusive Licensed Territory to make and have made, to use and have used, to sell and have sold, to offer to sell, and to import or to export any Licensed Product in the Licensed Fields of Use and to practice and have practiced any Licensed Processes in the Licensed Fields of Use. During the term of this Agreement, Biological Materials shall not be provided by PHS to any third party except under written agreement prohibiting the practice of the rights granted hereunder in the Exclusive Licensed Territory for commercial purposes. For clarification, Biological Materials may be provided under Research Licenses as described in Paragraph 5.04.

3.02 PHS hereby grants and Licensee accepts, subject to the terms and conditions of this Agreement, a non-exclusive license under the Licensed Patent Rights and non-exclusive right to use the Biological Materials in the Non-Exclusive Licensed Territory to make and have made, to use and have used, to sell and have sold, to offer to sell, and to import or to export any Licensed Product(s) in the Licensed Fields of Use and to practice and have practiced any Licensed Processes in the Licensed Fields of Use. For the sake of clarification, the Non-Exclusive Licensed Territory includes (without limitation) Australia, Japan, and South Korea, where patents and patent applications under Licensed Patent Rights have been filed or issued.

3.03 PHS hereby grants and Licensee accepts, subject to the terms and conditions of this Agreement, the right to use the relevant documentation and information listed in Appendix B for development of, regulatory licensing of, and otherwise as related to exercise of Licensee’s rights to Licensed Product(s).

3.04 This Agreement confers no license or rights by implication, estoppel, or otherwise under any patent applications or patents of PHS other than Licensed Patent Rights in the Licensed Territories regardless of whether such patents are dominant or subordinate to Licensed Patent Rights. To the best of its knowledge, PHS represents that the Licensed Patent Rights and Biological Materials in the Licensed Territories can be exploited without infringing other patents or other intellectual property rights of PHS as of the effective date of this Agreement.

4. SUBLICENSING

4.01 Upon written approval by PHS, which approval shall not be unreasonably withheld, Licensee may enter into sublicensing agreements under the Licensed Patent Rights or to the Biological Materials in the Exclusive Licensed Territory or in the Non-Exclusive Licensed Territory if in the latter instance said sublicensing agreement is intended to support expeditious development and commercialization of Licensed Product(s) and expeditious distribution in developing countries, and if said sublicense is associated with Licensee know-how and added value to the licensed technology.

4.02 Licensee agrees that any sublicenses granted by it shall provide that the obligations to PHS of Paragraphs 5.01-5.04, 8.01, 10.01, 10.02, 12.05, and 13.07-13.09 and the obligations to Wyeth of Paragraph 12.05 of this Agreement shall be binding upon the sublicensee as if it were a party to this Agreement. Licensee further agrees to attach copies of these Paragraphs to all sublicense agreements.

4.03 Any sublicenses granted by Licensee shall provide for the termination of the sublicense, or the conversion to a license directly between such sublicensees and PHS, at the option of the sublicensee, upon termination of this Agreement under Article 13. Such conversion is subject to
PHS approval, not to be unreasonably withheld, and contingent upon acceptance by the sublicensee of the remaining provisions of this Agreement.

4.04 Licensee agrees to forward to PHS a copy of each fully executed sublicense agreement postmarked within thirty (30) days of the execution of such agreement. To the extent permitted by law, PHS agrees to maintain each such sublicense agreement in confidence.

5. STATUTORY AND PHS REQUIREMENTS AND RESERVED GOVERNMENT RIGHTS

5.01 a) PHS reserves on behalf of the Government an irrevocable, nonexclusive, nontransferable, royalty-free license for the practice of all inventions licensed under the Licensed Patent Rights throughout the world by or on behalf of the Government and on behalf of any foreign government or international organization pursuant to any existing or

5.02 Licensee agrees that products used or sold in the United States embodying Licensed Products or produced through use of Licensed Processes shall be manufactured substantially in the United States, unless a written waiver is obtained in advance from PHS.

5.03 Licensee acknowledges that PHS may enter into future Cooperative Research and Development Agreements (CRADAs) under the Federal Technology Transfer Act of 1986 that relate to the subject matter of this Agreement. Licensee agrees not to unreasonably deny requests for a Research License from such future collaborators with PHS when acquiring such rights is necessary in order to make a Cooperative Research and Development Agreement (CRADA) project feasible. Licensee may request an opportunity to join as a party to the proposed Cooperative Research and Development Agreement (CRADA).

5.04 a) In addition to the reserved license of Paragraph 5.01 above, PHS reserves the right to grant nonexclusive Research Licenses directly or to require Licensee to grant nonexclusive Research Licenses on reasonable terms. The purpose of this Research License is to encourage basic research, whether conducted at an academic or corporate facility. In order to safeguard the Licensed Patent Rights, however, PHS shall consult with Licensee before granting to commercial entities a Research License in the Exclusive Licensed Territory or providing to them research samples of materials made through the Licensed Processes and shall, prior to providing such license or materials directly, provide Licensee the first opportunity to negotiate with commercial entities to provide them with such license or materials (For clarification, this right of Licensee to have the first opportunity to negotiate applies to Research Licenses for commercial entities only). If Licensee fails to offer such a Research License to commercial entities upon terms that are reasonable under the circumstances within sixty (60) days of submission of an application for such Research License, PHS may grant the Research License itself, under conditions consistent with this Agreement and with other Research Licenses granted by PHS for similar technologies and similar uses. In the event that Licensee can provide convincing written evidence to PHS that a commercial entity that has been granted a Research License to Licensed Patent Rights in the Exclusive Licensed Territory is developing the inventions for commercial manufacture or in lieu of purchase if the inventions are available as commercial products, then Licensee can request that PHS terminate its Research License with such commercial entities, such request not to be unreasonably denied.

b) In exceptional circumstances, and in the event that Licensed Patent Rights are Subject Inventions made under a Cooperative Research and Development Agreement (CRADA), the Government, pursuant to 15 U.S.C. 3710a(b)(1)(A), a nonexclusive, nontransferable, irrevocable, paid-up license to practice Licensed Patent Rights or have Licensed Patent Rights practiced throughout the world by or on behalf of the Government. In the exercise of such license, the Government shall not publicly disclose trade secrets or commercial or financial information that is privileged or confidential within the meaning of 5 U.S.C. 552(b)(4) or which would be considered as such if it had been obtained from a non-Federal party. Prior to the First Commercial Sale, Licensee agrees to provide PHS reasonable quantities of Licensed Products or materials made through the Licensed Processes for PHS research use.

6. ROYALTIES AND REIMBURSEMENT

6.01 Licensee agrees to pay to PHS a noncreditable, nonrefundable license issue royalty as set forth in Appendix C.
Licensee agrees to pay PHS a nonrefundable minimum annual royalty as set forth in Appendix C. The minimum annual royalty is due and payable on January 1 of each calendar year and may be credited against any other royalties (including all amounts listed in Appendix C as earned royalties, benchmark royalties, license issue royalties and sublicense royalties) accruing under Appendix C in that year. The minimum annual royalty due for the first calendar year of this Agreement may be prorated according to the fraction of the calendar year remaining between the effective date of this Agreement and the next subsequent January 1.

Licensee agrees to pay PHS earned royalties as set forth in Appendix C.

Licensee agrees to pay PHS benchmark royalties as set forth in Appendix C.

Licensee agrees to pay PHS sublicensing royalties as set forth in Appendix C.

A patent or patent application licensed under this Agreement shall cease to fall within the Licensed Patent Rights for the purpose of computing earned royalty payments in any given country on the earliest of the dates that a) the application has been abandoned and not continued, b) the patent expires or irrevocably lapses, or c) the claim has been held to be invalid or unenforceable by an unappealed or unappealable decision of a court of competent jurisdiction or administrative agency.

No multiple royalties shall be payable because any Licensed Products or Licensed Processes are covered by more than one of the Licensed Patent Rights.

Portions of this Exhibit, indicated by the mark “[***],” were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant’s application requesting confidential treatment pursuant to Rule 406 of the Securities Act of 1933, as amended

On sales of Licensed Products by Licensee to sublicensees or on sales made in other than an arm’s-length transaction, the value of the Net Sales attributed under this Article 6 to such a transaction shall be that which would have been received in an arm’s-length transaction, based on sales of like quantity and quality products on or about the time of such transaction.

Within thirty (30) days of the earliest to occur of 1) the second anniversary of the effective date of this Agreement; 2) upon completion of the first round of financing in which a total of Five (5) million U.S. Dollars in equity investment is received by Licensee; or 3) the completion of a sublicensing agreement in the Exclusive Licensed Territory, Licensee will be obligated to pay PHS patent costs accumulated by them as follows: a) costs associated with the preparation, filing, prosecution, and maintenance of the PRV and PCT applications and Licensed Patent Rights in the Non-Exclusive Licensed Territory listed in Appendix A; said expenses being those incurred by PHS prior to the time that payment by Licensee under this Paragraph 6.09 is obligated and said expenses to be divided by the greater of 1) four (4), or 2) the number of relevant commercialization licenses of record as of the time payment is obligated; and b) one hundred percent (100%) of costs associated with the preparation, filing, prosecution, and maintenance of all patent applications and patents included within the Licensed Patent Rights listed in Appendix A in the Exclusive Licensed Territory.

With regard to expenses associated with the preparation, filing, prosecution, and maintenance of all patent applications and patents included within the Licensed Patent Rights in the Licensed Territories incurred by PHS on or after the date on which expenses under Paragraph 6.09 become due, PHS, at its sole option, may require Licensee:

a) to pay PHS on an annual basis, within sixty (60) days of PHS’s submission of a statement and request for payment, a royalty amount equivalent to all such patent expenses incurred during the previous calendar year(s), said expenses to be calculated in the same way as in Paragraph 6.09; or

b) to pay such expenses directly to the law firm employed by PHS to handle such functions, said expenses to be calculated in the same way as in Paragraph 6.09. However, in such event, PHS and not Licensee shall be the client of such law firm.

Licensee may elect to surrender its rights in any country of the Licensed Territories under any Licensed Patent Rights upon ninety (90) days written notice to PHS and owe no payment obligation under Paragraph 6.10 for patent-related expenses incurred in that country after ninety (90) days of the effective date of such written notice.

7. PATENT FILING, PROSECUTION, AND MAINTENANCE

Except as otherwise provided in this Article 7, PHS agrees to take responsibility for, but to consult with, the Licensee in the preparation, filing, prosecution, and maintenance of any and all patent applications or patents included in the Licensed Patent Rights, shall furnish copies of relevant patent-related documents to Licensee, and shall provide Licensee sufficient opportunity to comment on any document that PHS intends to file or to cause to be filed with the relevant intellectual property or patent office; Licensee’s comments shall be considered in good faith and suggestions not to be unreasonably refused. Regarding Licensed Patent Rights in the Non-Exclusive Licensed Territory, PHS shall also consult with Licensee in the choice of countries in which protection shall be sought, giving good faith consideration to concerns of cost and efficiency.

Upon PHS’s written request, Licensee shall assume the responsibility for the preparation, filing, prosecution, and maintenance of any and all patent applications or patents included in the Licensed Patent Rights in the Exclusive Licensed Territory and shall on an ongoing basis promptly furnish copies of all patent-related documents to PHS. In such event, Licensee shall, subject to the prior approval of PHS, select
registered patent attorneys or patent agents to provide such services on behalf of Licensee and PHS. PHS shall provide appropriate powers of attorney and other documents necessary to undertake such actions to the patent attorneys or patent agents providing such services. Licensee and its attorneys or agents shall consult with PHS in all aspects of the preparation, filing, prosecution and maintenance of patent applications and patents included within the Licensed Patent Rights in the Exclusive Licensed Territory and shall provide PHS sufficient opportunity to comment on any document that Licensee intends to file or to cause to be filed with the relevant intellectual property or patent office. PHS's comments shall be considered in good faith and suggestions not to be unreasonably refused.

7.03 At any time, PHS may provide Licensee with written notice that PHS wishes to assume control of the preparation, filing, prosecution, and maintenance of any and all patent applications or patents included in the Licensed Patent Rights in the Exclusive Licensed Territory. If PHS elects to assume such responsibilities, Licensee agrees to cooperate fully with PHS, its attorneys, and agents in the preparation, filing, prosecution, and maintenance of any and all patent applications or patents included in the Licensed Patent Rights in the Exclusive Licensed Territory and to provide PHS with complete copies of any and all documents or other materials that PHS deems necessary to undertake such responsibilities. Licensee shall be responsible for all costs associated with transferring patent prosecution responsibilities to an attorney or agent of PHS's choice.

7.04 Each party shall promptly inform the other as to all matters that come to its attention that may affect the preparation, filing, prosecution, or maintenance of the Licensed Patent Rights and permit each other to provide comments and suggestions with respect to the preparation, filing, prosecution, and maintenance of Licensed Patent Rights, which comments and suggestions shall be considered by the other party.

8. RECORD KEEPING

8.01 Licensee agrees to keep accurate and correct records of Licensed Products made, used, sold, or imported and Licensed Processes practiced under this Agreement appropriate to determine the amount of royalties due PHS. Such records shall be retained for at least five (5) years following a given reporting period and shall be available during normal business hours for inspection at the expense of PHS by an accountant or other designated auditor selected by PHS for the sole purpose of verifying reports and payments hereunder; any such inspection/audit to be on reasonable notice and not to occur more than once per year. The accountant or auditor shall only disclose to PHS information relating to the accuracy of reports and payments made under this Agreement. If an inspection shows an underreporting or underpayment in excess of seven and one half percent (7.5%) for any twelve (12) month period, then Licensee shall reimburse PHS for the cost of the inspection at the time Licensee pays the unreported royalties, including any late charges as required by Paragraph 9.08 of this Agreement. All payments required under this Paragraph shall be due within thirty (30) days of the date PHS provides Licensee notice of the payment due.

8.02 Licensee agrees to have an audit of sales and royalties conducted by an independent auditor at least every five (5) years if annual sales of the Licensed Products or Licensed Processes are over two (2) million dollars. The audit shall address, at a minimum, the amount of gross sales by or on behalf of Licensee during the audit period, terms of the license as to percentage or fixed royalty to be remitted to the Government, the amount of royalty funds owed to the Government under this Agreement, and whether the royalty amount owed has been paid to the Government and is reflected in the records of the Licensee. The audit shall also indicate the PHS license number, product, and the time period being audited. A report certified by the auditor shall be submitted promptly by the auditor directly to PHS on completion. Licensee shall pay for the entire cost of the audit.

9. REPORTS ON PROGRESS, BENCHMARKS, SALES, AND PAYMENTS

9.01 Prior to signing this Agreement, Licensee has provided to PHS the Commercial Development Plan at Appendix F, under which Licensee intends to bring the subject matter of the Licensed Patent Rights and/or Biological Materials to the point of Practical Application. This Commercial Development Plan is hereby incorporated by reference into this Agreement. Based on this plan, performance Benchmarks are determined as specified in Appendix E.

9.02 Licensee shall provide written annual reports on its product development progress or efforts to commercialize under the Commercial Development Plan for each of the Licensed Fields of Use within sixty (60) days after December 31 of each calendar year. These progress reports shall include, but not be limited to: progress on research and development, status of applications for regulatory approvals, manufacturing, sublicensing, marketing, importing, and sales during the preceding calendar year, as well as plans for the present calendar year. PHS also encourages these reports to include information on any of Licensee's public service activities that relate to the Licensed Patent Rights and/or Biological Materials. If reported progress differs from that projected in the Commercial Development Plan and Benchmarks, Licensee shall explain the reasons for such differences. In any such annual report, Licensee may propose amendments to the Commercial Development Plan, acceptance of which by PHS may not be denied unreasonably. Licensee agrees to provide any additional information reasonably required by PHS to evaluate Licensee's performance under this Agreement. Licensee may amend the Benchmarks at any time upon written consent by PHS. PHS shall not unreasonably withhold approval of any request of Licensee to extend the time periods of this schedule if such request is supported by a reasonable showing by Licensee of diligence in its performance under the Commercial Development Plan and toward bringing the Licensed Products to the point of Practical Application as defined in 37 CFR 404.3(d). Licensee shall amend the Commercial Development Plan and Benchmarks at the request of PHS to address any Licensed Fields of Use not specifically addressed in the plan originally submitted.

9.03 Licensee shall report to PHS the dates for achieving Benchmarks specified in Appendix E and the First Commercial Sale in each country in the Licensed Territories within thirty (30) days of such occurrences.
Licensee shall submit to PHS within sixty (60) days after each calendar half-year ending June 30 and December 31 a royalty report setting forth for the preceding half-year period the amount of the Licensed Products sold or Licensed Processes practiced by or on behalf of Licensee in each country within the Licensed Territories, the Net Sales, and the amount of royalty accordingly due. With each such royalty report, Licensee shall submit payment of the earned royalties due. If no earned royalties are due to PHS for any reporting period, the written report shall so state. The royalty report shall be certified as correct by an authorized officer of Licensee and shall include a detailed listing of all deductions made under Paragraph 2.10 to determine Net Sales made under Article 6 to determine royalties due.

Licensee agrees to forward semi-annually to PHS a copy of such reports received by Licensee from its sublicensees during the preceding half-year period as shall be pertinent to a royalty accounting to PHS by Licensee for activities under the sublicense.

Royalties due under Article 6 shall be paid in U.S. dollars. For conversion of foreign currency to U.S. dollars, the conversion rate shall be the New York foreign exchange rate quoted in The Wall Street Journal on the day that the payment is due. All checks and bank drafts shall be drawn on United States banks and shall be payable, as appropriate, to “NIH/Patent Licensing.” All such payments shall be sent to the following address: NIH, P.O. Box 360120, Pittsburgh, PA 152516120. Any loss of exchange, value, taxes, or other expenses incurred in the transfer or conversion to U.S. dollars shall be paid entirely by Licensee. The royalty report required by Paragraph 9.04 of this Agreement shall accompany each such payment, and a copy of such report shall also be mailed to PHS at its address for notices indicated on the Signature Page of this Agreement.

Licensee shall be solely responsible for determining if any tax on royalty income is owed outside the United States and shall pay any such tax (deducting same from the total of royalties due) and be responsible for all filings, including tax exemption certificates for PHS (PHS to provide reasonable information and cooperation in obtaining such certificates), with appropriate agencies of foreign governments.

Interest and penalties may be assessed by PHS on any overdue payments in accordance with the Federal Debt Collection Act. The payment of such late charges shall not prevent PHS from exercising any other rights it may have as a consequence of the lateness of any payment.

All plans and reports required by this Article 9 and marked “confidential” by Licensee shall, to the extent permitted by law, be treated by PHS as commercial and financial information obtained from a person as and privileged and confidential, and any proposed disclosure of such records by the PHS under the Freedom of Information Act (FOIA), 5 U.S.C. § 552 shall be subject to the pre-disclosure notification requirements of 45 CFR § 5.65(d).

Licensee shall use its reasonable best efforts to bring the Licensed Products and Licensed Processes to Practical Application. “Reasonable best efforts” for the purposes of this provision shall be determined by reference to the Commercial Development Plan at Appendix F and performance of the Benchmarks at Appendix E. The efforts of a sublicensee shall be considered the efforts of Licensee.

Upon the First Commercial Sale, until the expiration of this Agreement, Licensee shall use its reasonable best efforts to make Licensed Products and Licensed Processes reasonably accessible to the United States public.

Licensee and PHS agree to notify each other promptly of each infringement or possible infringement of the Licensed Patent Rights in the Exclusive Licensed Territory, as well as any facts which may affect the validity, scope, or enforceability of the Licensed Patent Rights in the Exclusive Licensed Territory of which either Party becomes aware.

Pursuant to this Agreement and the provisions of Chapter 29 of title 35, United States Code, Licensee may: a) bring suit in its own name, at its own expense, and on its own behalf for infringement of presumably valid claims in the Licensed Patent Rights in the Exclusive Licensed Territory; b) in any such suit, enjoin infringement and collect for its use, damages, profits, and awards of whatever nature recoverable for such infringement; and c) settle any claim or suit for infringement of the Licensed Patent Rights in the Exclusive Licensed Territory provided, however, that PHS and appropriate Government authorities shall also have the right to take such actions as set out herein: Licensee shall have the first right to initiate such suit, but in advance of initiating the suit shall notify PHS in writing of its intent, and consult with PHS and provide information to PHS relating to the suit. During Licensee's management of any such suit, it shall keep PHS informed regarding the progress of such suit and shall cooperate in good faith with PHS to address issues regarding the protection of PHS rights under this Agreement and in the Licensed Patent Rights, or to address any other concern regarding any Government interest in the action.

If Licensee elects not to initiate a suit or engage in settlement discussions with an infringer within a reasonable period after a written request by PHS to do so, then PHS shall have the right to initiate such action. PHS and Licensee shall have a continuing right to join in any suit by the other party. Licensee shall take no action to compel the Government either to initiate or to join in any such suit for patent infringement. Licensee may request the Government to initiate or join in any such suit if necessary to avoid dismissal of the suit. Should the Government be made a party to any such suit, Licensee shall reimburse the Government for any costs, expenses, or fees which the Government incurs as a result of such motion or other action, including any and all costs incurred by the Government in opposing any such motion or other action. In all cases, Licensee agrees to keep PHS reasonably apprised of the status and progress of any litigation. Before Licensee commences an infringement action, Licensee shall notify PHS and give careful consideration to the views of PHB and to any potential effects of the litigation on the public health in deciding whether to bring suit.

In the event that a declaratory judgment action alleging invalidity or non-infringement of any of the Licensed Patent Rights in the Exclusive Licensed Territory shall be brought against Licensee or raised by way of counterclaim or affirmative defense in an infringement suit brought by Licensee under Paragraph 11.02, pursuant to this Agreement and the provisions of Chapter 29 of Title 35, United States Code or other
Portions of this Exhibit, indicated by the mark “[***],” were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant’s application requesting confidential treatment pursuant to Rule 406 of the Securities Act of 1933, as amended.

statutes, Licensee may: a) defend the suit in its own name, at its own expense, and on its own behalf for presumably valid claims in the Licensed Patent Rights in the Exclusive Licensed Territory; b) in any such suit, ultimately to enjoin infringement and to collect for its use, damages, profits, and awards of whatever nature recoverable for such infringement; and c) settle any claim or suit for declaratory judgment involving the Licensed Patent Rights in the Exclusive Licensed Territory—provided, however, that PHS and appropriate Government authorities shall also have the right to take such actions and shall have a continuing right to join in such suit according to the procedures set out in Paragraph 11.02. Licensee shall take no action to compel the Government either to initiate or to join in any such declaratory judgment action. Licensee may request the Government to initiate or to join any such suit if necessary to avoid dismissal of the suit, which request shall not be unreasonably denied. Should the Government be made a party to any such suit by motion or any other action of Licensee, Licensee shall reimburse the Government for any costs, expenses, or fees which the Government incurs as a result of such motion or other action. If Licensee elects not to defend against such declaratory judgment action, PHS, at its option, may do so at its own expense. In all cases, Licensee agrees to keep PHS reasonably apprised of the status and progress of any litigation. Before Licensee commences an infringement action, Licensee shall notify PHS and give careful consideration to the views of PHS and to any potential effects of the litigation on the public health in deciding whether to bring suit.

11.04 In any action under Paragraphs 11.02 or 11.03:

a) If brought by Licensee, the expenses including costs, fees, attorney fees and disbursements, shall be paid by Licensee. If brought by PHS, the expenses including costs, fees, attorney fees and disbursements shall be paid by PHS. After reduction by the amount of all expenses including costs, fees, attorney fees and disbursements paid by the initiating party, the remaining value of any recovery made by either party through court judgment or settlement shall be treated as Net Sales, with appropriate earned royalties thereon deducted and paid to PHS, and the remainder paid to Licensee;

b) Any party electing to join, follow or otherwise participate in any such action shall bear its own expenses, including costs, fees, attorney fees and disbursements (except that Licensee shall pay the Government’s expenses in the event that Licensee requests the Government to initiate or to join any such suit if necessary to avoid dismissal of the suit).  

11.05 PHS shall cooperate fully with Licensee in connection with any action under Paragraphs 11.02 or 11.03. PHS agrees promptly to provide access to all necessary documents and to render reasonable assistance in response to a request by Licensee.

11.06 With respect to Licensed Patent Rights in the Non-Exclusive Licensed Territory, Licensee and PHS shall notify each other if an infringement as in Paragraph 11.02 or a declaratory judgment as in Paragraph 11.03 has occurred and shall consult with each other and, if possible, with other licensees as to the appropriate course of action.

12. NEGATION OF WARRANTIES AND INDEMNIFICATION

12.01 PHS offers no warranties other than those specified in Article 1.

Portions of this Exhibit, indicated by the mark “[***],” were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant’s application requesting confidential treatment pursuant to Rule 406 of the Securities Act of 1933, as amended.

12.02 PHS does not warrant the validity of the Licensed Patent Rights and makes no representations whatsoever with regard to the scope of the Licensed Patent Rights, or that the Licensed Patent Rights may be exploited without infringing other patents or other intellectual property rights of third parties.

12.03 PHS MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF ANY SUBJECT MATTER DEFINED BY THE CLAIMS OF THE LICENSED PATENT RIGHTS OR TANGIBLE MATERIALS RELATED THERETO.

12.04 PHS does not represent that it shall commence legal actions against third parties infringing the Licensed Patent Rights.

12.05 Licensee shall indemnify and hold PHS, Wyeth and its affiliates, and their respective employees, students, fellows, agents, consultants, officers and directors harmless from and against all liability, demands, damages, deficiencies, judgments, assessments, costs, or expenses, including reasonable attorneys’ fees and costs of investigating and defending against lawsuits, complaints, actions, or other pending or threatened litigation, and losses, including but not limited to death, personal injury, illness, or property damage in connection with or arising out of: a) the use by or on behalf of Licensee, its sublicensees, directors, employees, or third parties of any Licensed Patent Rights or documentation, information and materials, know-how, or the rights granted, transferred, or assigned to PHS by Wyeth under license agreements L-030-1987/1 and L-008-1989/1 as they relate to this Agreement; or b) the design, manufacture, distribution, use, or sale of any Licensed Products, Licensed Processes or Biological Materials by Licensee, or other products or processes developed in connection with or arising out of the Licensed Patent Rights or Biological Materials.

Prior to commencement of human clinical trials by Licensee, Licensee agrees to obtain and maintain a liability insurance program consistent with sound business practice, including commercial general liability and product liability insurance for Licensed Products utilizing documentation, information and materials, know-how, or the rights granted, transferred, or assigned to PHS by Wyeth under license agreements L-030-1987/1 and L-008-1989/1 as they relate to this Agreement, naming PHS and Wyeth and its affiliates, and their respective employees, students, fellows, agents, consultants, officers and directors as insured parties, sufficient to adequately provide such indemnification. Wyeth shall be given the right to enforce the indemnification and insurance rights and shall be named as a third party

Wyeth
beneficiary to this agreement for such purpose. PHS disclaims any and all liability for the failure of Licensee, its sublicensees or assigns or any other party to satisfy their obligation to Wyeth. However, in the event of any failure of any such party to indemnify or provide or maintain insurance, in addition to any other remedies it may have against such party, Wyeth retains its rights to terminate the licenses granted to PHS in license agreements L-030-1987/1 and L-008-1989/1 as they relate to this Agreement.

12.06 Licensee’s acceptance of this Agreement shall not be deemed an admission by Licensee of the novelty or patentability of the Licensed Patent Rights.

12.07 Any materials provided by Licensee to PHS hereunder are provided for research purposes only and ARE NOT FOR USE IN HUMANS. Licensee MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF ANY MATERIALS PROVIDED TO PHS HEREUNDER.

13. TERM, TERMINATION, AND MODIFICATION OF RIGHTS

13.01 This Agreement is effective when signed by all parties and shall extend on a country-by-country basis until the later of (a) the expiration of all royalty obligations under Licensed Patent Rights where such rights exist or have existed or (b) eight (8) years from First Commercial Sale where such rights have ceased to exist or never existed unless terminated as provided in this Article 13 or by mutual agreement of PHS and Licensee. Upon expiration pursuant to this Paragraph 13.01, Licensee shall have a royalty-free, paid up, non-transferrable perpetual license to the Biological Materials transferred hereunder in the Licensed Territories and all derivatives and products made by Licensee therefrom.

13.02 In the event that Licensee is in default in the performance of any material obligations under this Agreement, including but not limited to the obligations listed in Paragraph 13.05, and if the default has not been remedied within ninety (90) days after the date of notice in writing of such default, PHS may terminate this Agreement by written notice and pursue outstanding amounts owed through procedures provided by the Federal Debt Collection Act.

13.03 In the event that Licensee becomes insolvent, files a petition in bankruptcy, has such a petition filed against it, determines to file a petition in bankruptcy, or receives notice of a third party’s intention to file an involuntary petition in bankruptcy, Licensee shall immediately notify PHS in writing. Furthermore, PHS shall have the right to terminate this Agreement immediately upon written notice to Licensee, given the understanding that PHS shall first endeavor in good faith to assist Licensee in any efforts to emerge from bankruptcy by maintaining the present License in effect for a reasonable period of time not to exceed one (1) year from Licensee’s receipt of written notice, unless otherwise deemed necessary to address an immediate public health need.

13.04 Licensee shall have a unilateral right to terminate this Agreement and/or any licenses in any country or territory by giving PHS sixty (60) days written notice to that effect.

13.05 PHS shall specifically have the right to terminate or modify, at its option, this Agreement, if PHS determines that the Licensee: 1) is not executing the Commercial Development Plan consistent with the requirement of Paragraph 10.01 and the Licensee cannot otherwise demonstrate to PHS’s reasonable satisfaction that the Licensee has taken, or can be expected to take within a reasonable time, effective steps to achieve the Practical Application of the Licensed Products or Licensed Processes; 2) has not achieved the Benchmarks as may be modified under Paragraph 9.02, and the Licensee cannot otherwise demonstrate to PHS’s reasonable satisfaction that the Licensee has taken, or can be expected to take within a reasonable time, effective steps to correct the failure to achieve the relevant Benchmark in order to achieve the relevant Benchmark within the earliest reasonably possible time; 3) has willfully made a false statement of, or willfully omitted, a material fact in the license application or in any report required by the license Agreement; 4) has committed a material breach of a covenant or agreement contained in the license; 5) is not keeping Licensed Products or Licensed Processes reasonably available to the public after commercial use commences; 6) cannot reasonably satisfy unmet health and safety needs; or 7) cannot reasonably justify a failure to comply with the domestic production requirement of Paragraph 5.02 unless waived. In making this determination, PHS shall take into account the normal course of such commercial development programs conducted with sound and reasonable business practices and judgment and the annual reports submitted by Licensee under Paragraph 9.02. Prior to invoking this right, PHS shall give written notice to Licensee providing Licensee specific notice of, and a ninety (90) day opportunity to respond to, PHS’s concerns as to the previous items 1) to 7). If Licensee fails to alleviate PHS’s concerns as to the previous items 1) to 7) or fails to initiate corrective action to PHS’s satisfaction, PHS may terminate or modify this Agreement.

13.06 When the public health and safety so require, and after written notice to Licensee providing Licensee a sixty (60) day opportunity to respond, PHS shall have the right to grant Licensee to grant sublicenses to responsible applicants, on reasonable terms, in any Licensed Fields of Use under the Licensed Patent Rights in the Exclusive Licensed Territory, unless Licensee can reasonably demonstrate that the granting of the sublicense would not materially increase the availability to the public of the subject matter of the Licensed Patent Rights in the Exclusive Licensed Territory. PHS shall not require the granting of a sublicense unless the responsible applicant has first negotiated in good faith with Licensee.
13.07 PHS reserves the right according to 35 U.S.C. § 209(0)(4) to terminate or modify this Agreement if it is determined that such action is necessary to meet requirements for public use specified by federal regulations issued after the date of the license and such requirements are not reasonably satisfied by Licensee.

13.08 Within thirty (30) days of receipt of written notice of PHS's unilateral decision to modify or terminate this Agreement, Licensee may, consistent with the provisions of 37 CFR 404.11, appeal the decision by written submission to the designated PHS official. The decision of the designated PHS official shall be the final agency decision. Licensee may thereafter exercise any and all administrative or judicial remedies that may be available.

13.09 Within ninety (90) days of expiration or termination of this Agreement under this Article 13, a final report shall be submitted by Licensee. Any royalty payments, including those incurred but not yet paid (such as the full minimum annual royalty), and those related to patent expense, due to PHS shall become immediately due and payable upon termination or expiration. If terminated under this Article 13, sublicenses may elect to convert their sublicenses to direct licenses with PHS pursuant to Paragraph 4.03. Unless otherwise specifically provided for under this Agreement, upon any termination of this Agreement, Licensee shall return all Licensed Products or other materials included within the Licensed Patent Rights in its possession to PHS or provide PHS with certification of the destruction thereof.

14. GENERAL PROVISIONS

14.01 Neither Party may waive or release any of its rights or interests in this Agreement except in writing. The failure of the Government to assert a right hereunder or to insist upon compliance with any term or condition of this Agreement shall not constitute a waiver of that right by the Government or excuse a similar subsequent failure to perform any such term or condition by Licensee.

14.02 This Agreement constitutes the entire agreement between the Parties relating to the subject matter of the Licensed Patent Rights and Biological Materials, and all prior negotiations, representations, agreements, and understandings are merged into, extinguished by, and completely expressed by this Agreement.

14.03 The provisions of this Agreement are severable, and in the event that any provision of this Agreement shall be determined to be invalid or unenforceable under any controlling body of law, such determination shall not in any way affect the validity or enforceability of the remaining provisions of this Agreement.

14.04 If either Party desires a modification to this Agreement, the Parties shall, upon reasonable notice of the proposed modification by the Party desiring the change, confer in good faith to determine the desirability of such modification. No modification shall be effective until a written amendment is signed by the signatories to this Agreement or their designees.

14.05 The construction, validity, performance, and effect of this Agreement shall be governed by Federal law as applied by the Federal courts in the District of Columbia.

14.06 All notices required or permitted by this Agreement shall be given by prepaid, first class, registered or certified mail or by an express/overnight delivery service provided by a commercial carrier, properly addressed to the other Party at the address designated on the following Signature Page, or to such other address as may be designated in writing by such other Party. Notices shall be considered timely if such notices are received on or before the established deadline date or sent on or before the deadline date as verifiable by U.S. Postal Service postmark or dated receipt from a commercial carrier. Parties should request a legibly dated U.S. Postal Service postmark or obtain a dated receipt from a commercial carrier or the U.S. Postal Service. Private metered postmarks shall not be acceptable as proof of timely mailing.

14.07 This Agreement shall not be assigned by Licensee except: a) with the prior written consent of PHS, such consent not to be withheld unreasonably, or b) as part of a sale or transfer of substantially the entire business of Licensee relating to operations which concern this Agreement. Licensee shall notify PHS within ten (10) days of any assignment of this Agreement by Licensee, and Licensee shall pay PHS, as an additional royalty, [***] of the fair market value of any consideration received for any assignment of this Agreement within thirty (30) days of such assignment.

14.08 Licensee agrees in its use of Biological Materials and any other PHS-supplied materials to comply with all applicable statutes, regulations, and guidelines, including PHS and DHHS regulations and guidelines. Licensee agrees not to use the materials for research involving human subjects or clinical trials in the United States without complying with 21 CFR Part 50 and 45 CFR Part 46. Licensee agrees not to use the materials for research involving human subjects or clinical trials outside of the United States without notifying PHS, in writing, of such research or trials and complying with the applicable regulations of the appropriate national control authorities. Written notification to PHS of research involving human subjects or clinical trials outside of the

United States shall be given no later than sixty (60) days prior to commencement of such research or trials.

14.09 Licensee acknowledges that it is subject to and agrees to abide by the United States laws and regulations (including the Export Administration Act of 1979 and Arms Export Control Act) controlling the export of technical data, computer software, laboratory prototypes, biological material, and other commodities. The transfer of such items may require a license from the cognizant Agency of the U.S.
Licensee agrees to mark the Licensed Products or their packaging sold in the United States with all applicable U.S. patent numbers and similarly to indicate “Patent Pending” status. All Licensed Products manufactured in, shipped to, or sold in other countries shall be marked in such a manner as to preserve PHS patent rights in such countries.

14.11 By entering into this Agreement, PHS does not directly or indirectly endorse any product or service provided, or to be provided, by Licensee whether directly or indirectly related to this Agreement. Licensee shall not state or imply that this Agreement is an endorsement by the Government, PHS, any other Government organizational unit, or any Government employee. Additionally, Licensee shall not use the names of NIH, CDC, PHS, or DHHS or the Government or their employees in any advertising, promotional, or sales literature without the prior written consent of PHS.

14.12 The Parties agree to attempt to settle amicably any controversy or claim arising under this Agreement or a breach of this Agreement, except for appeals of modifications or termination decisions provided for in Article 13. Licensee agrees first to appeal any such unsettled claims or controversies to the designated PHS official, or designee, whose decision shall be considered the final agency decision. Thereafter, Licensee may exercise any administrative or judicial remedies that may be available.

14.13 Nothing relating to the grant of a license, nor the grant itself, shall be construed to confer upon any person any immunity from or defenses under the antitrust laws or from a charge of patent misuse, and the acquisition and use of rights pursuant to 37 CFR Part 404 shall not be immunized from the operation of state or Federal law by reason of the source of the grant.

14.14 Paragraphs 4.03, 8.01, 9.05-9.07, 12.01-12.05, 13.08, 13.09, and 14.12 and the indicated section of Appendix C of this Agreement shall survive termination of this Agreement.

SIGNATURES BEGIN ON NEXT PAGE
Any false or misleading statements made, presented, or submitted to the Government, including any relevant omissions, under this Agreement and during the course of negotiation of this Agreement are subject to all applicable civil and criminal statutes including Federal statutes 31 U.S.C. §§ 3801-3812 (civil liability) and 18 U.S.C. § 1001 (criminal liability including fine(s) and/or imprisonment).

APPENDIX A—Patent(s) or Patent Application(s)

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<td>E-015-1998/0-AU-06</td>
</tr>
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APPENDIX B—Licensed Fields of Use and Territory and Biological Materials and Documentation

Licensed Fields of Use:

Human Rotavirus Vaccine based on Human-Bovine Rotavirus Reassortants

Exclusive Licensed Territory:

Europe, Canada and United States of America

Non-Exclusive Licensed Territory:

Worldwide excluding Europe, Canada, United States of America, India, Brazil, and China

For the sake of clarification, the Non-Exclusive Licensed Territory includes (without limitation) Australia, Japan, and South Korea, where patents and patent applications under Licensed Patent Rights have been filed or issued.

Biological Materials:

Rotaviruses:

1. Preserved BRota-HP-PS01, Type ST3 (1 container with 15 ml of virus suspension)
2. Preserved BRota-HD-PS03, Type ST1 (1 container with 15 ml of virus suspension)
3. Preserved BRota-HDS1-PS03, Type ST2 (1 container with 15 ml of virus suspension)
4. Preserved BRota-HP-PS2, Type ST4 (1 container with 15 ml of virus suspension)

PHS and Licensee acknowledge that Licensee requests, for the following human-bovine reassortant strains (or strains derived therefrom), a sample of the Preserved, Master virus seed (FRhL2 cell adapted) and Master virus seed (Vero cell adapted). These samples will be provided by PHS and included under this Agreement, pending reasonable review by PHS for each to establish that PHS has legal access to the materials and the right to include same under this Agreement:

1. (1) HD x BRV-1, clone 47-1-1 (VP7:1 [D]) ATCC VR-2617
2. (2) HDS1 x BRV-1, clone 66-1-1 (VP7:2 [DS-1]) ATCC VR-2616
3. (3) HP x BRV-2, clone 22-1-1 (VP7:3 [P]) ATCC VR-2611
4. (4) HST3 x BRV-2, clone 52-1-1 (VP7:4 [ST3]) ATCC VR-2612
5. (5) IAL28 x UK, clone 33-1-1 (VP7:5 [IAL28]) ATCC VR-2613
6. (6) AU32 x UK, clone 27-1-1 (VP7:9 [AU32]) ATCC VR-2614
7. (7) KC-1 x UK, clone 32-1-1 (VP7:10 [KC-1]) ATCC VR-2615

Antibodies:

1. (1) Lot W1A1-anti IgG2a (serotype 1) [5 ml (5 vials x 1 ml) of monoclonal antibody preparation]
2. (2) Lot IC10A-anti IgA (serotype 2) [5 ml (5 vials x 1 ml) of monoclonal antibody preparation]
3. (3) Lot RIA-anti IgG2b (Serotype 3) [5 ml (5 vials x 1 ml) of monoclonal antibody preparation]
APPENDIX C—Royalties

ROYALTIES:

Licensee agrees to pay to PHS a noncreditable, nonrefundable license issue royalty in the amount of $*** as follows:

· $*** due three (3) months after effective date of this Agreement
· $*** due two (2) years after the effective date of this Agreement.
· $*** at the first to occur of:
  1) raising a cumulative $*** in financing, whether from individuals, venture capital, or through the formation of partnership/sublicensing, where such payment is due within thirty (30) days of this event; or
  2) a firmly underwritten initial public offering and sale of Licensee’s Common Stock pursuant to an effective registration statement under the Securities Act of 1933, as amended, where such payment is due within sixty (60) days of this event. This clause shall survive termination or expiration of this Agreement.

Licensee agrees to pay to PHS a nonrefundable minimum annual royalty in the amount of $*** for years one through three (1-3) $*** for years four (4) through the year in which the First Commercial Sale occurs $*** after the year in which the First Commercial Sale occurs through the remainder of this Agreement.

Minimum annual royalties shall be creditable as provided in Paragraph 6.02 of this Agreement.

Licensee agrees to pay PHS earned royalties on Net Sales by or on behalf of Licensee and its sublicensees as follows:

· $*** in the Exclusive Licensed Territory where Licensed Patent Rights exist
· $*** in the Non-Exclusive Licensed Territory where Licensed Patent Rights exist
· $*** in the Exclusive Licensed Territory where no Licensed Patent Rights exist
· $*** in the Non-Exclusive Licensed Territory where no Licensed Patent Rights exist

The above earned royalties shall be reduced, on a Licensed Product-by-Licensed Product, country-by-country, and year-to-year basis by $*** paid as royalties for third party licenses required to sell Licensed Product or Licensed Process where said royalties for the third party license exceed $*** and provided that such reduction in earned royalties owed to PHS shall never be reduced below $*** of the earned royalties rates specified above.

Licensee agrees to pay PHS benchmark royalties within ninety (90) days after accomplishment of the following Benchmarks, whether achieved by Licensee or sublicensee:

· $*** — upon completion of Phase 11 clinical trials necessary for the first complete regulatory license application for a Licensed Product.
· $*** — upon commencement of a Phase 111 clinical trial for the evaluation of safety of a Licensed Product;

Licensee agrees to pay PHS additional sublicensing royalties as follows:
Licensee agrees to the following **Benchmarks** for its performance under this **Agreement** and, within thirty (30) days of achieving a **Benchmark**, shall notify PHS that the **Benchmark** has been achieved.

- Phase I clinical trial completion: November 2010.
- Phase II clinical trial completion: November 2012.
- Phase III clinical trial completion: May 2016.
- Biological License Application (BLA) submission: May 2017.
- BLA approval: November 2018.
- **First Commercial Sale**: January 2019.

For the sake of clarification, the above benchmarks can be modified from time to time per Paragraph 9.02 in the **Agreement**.

Developing world access

Within six (6) months of NDA/BLA equivalent approval in any **Licensed Territory**, Licensee shall send a written report to PHS detailing the potential **Public Sector** market to fulfill the public health need for the approved **Licensed Product** in **Developing Countries**, including the impact of any approved competing **Licensed Product**. The report shall also include Licensee’s amendment to the **Commercial Development Plan**, Appendix F, to satisfy said potential **Public Sector** market either directly with Licensee’s own resources and/or through joint ventures with third parties. Acceptance of this report and amendment is required by PHS in writing, such acceptance will not be unreasonably denied.

Licensee agrees:

a) To the extent that Licensee shall satisfy the potential **Public Sector** market through its own resources, and provided there is a commercially reasonable market therefore, Licensee shall make commercially reasonable efforts to deliver the first allotment of a safe and effective **Licensed Product** to the **Public Sector** for distribution and/or sale in **Developing Countries** within two (2) years of **First Commercial Sale** and thereafter Licensee agrees to use commercially reasonable efforts to meet any delivery date and in the quantities required in an order placed by the **Public Sector**.

b) To the extent that Licensee shall satisfy the potential **Public Sector** market through joint ventures with third parties, Licensee shall:

(i) Within one (1) year after **First Commercial Sale**, make commercially reasonable efforts to negotiate with third parties in order to effect joint ventures or other partnership agreements to make and sell the **Licensed Products** and **Licensed Processes** and (or to assist in development of similar third party licensed products or processes made under license directly between the third party and PHS for the technology covered by the **Agreement** (hereinafter “Third Party Products”)) to provide know-how and effect technology transfer to said third parties that will allow them to manufacture a safe and effective **Licensed Product** (or Third Party Products) for distribution and/or sale in **Developing Countries**.

(ii) Within two (2) years of **First Commercial Sale**, and provided there is a commercially reasonable market therefore, make commercially reasonable efforts to have entered into at least one (1) joint venture or other partnership agreement with at least one (1) third party for the purpose of manufacturing a safe and effective **Licensed Product** or Third Party Product for distribution and/or sale in **Developing Countries**.

(iii) Subject to (ii) above, Within four (4) years of **First Commercial Sale**, ensure that any said third party(ies) have made commercially reasonable efforts to have delivered a first allotment of a safe and effective **Licensed Product** or Third Party Product...
to the Public Sector for distribution and/or sale in Developing Countries, and thereafter ensure that said third party(ies) use commercially reasonable efforts to meet any delivery date(s) and in the quantities required in an order placed by the Public Sector.

APPENDIX F—Commercial Development Plan

Background

This project will use the four monovalent human-bovine UK reassortant rotavirus strains designated D x UK (VP 7 serotype 1), DS-1 x UK (VP 7 serotype 2), P x UK (VP 7 serotype 3) and ST3 x UK (VP 7 serotype 4) previously tested in clinical trials that established the safety and immunogenicity of the orally administered quadrivalent mixture.

Proof of Concept Studies

This previous quadrivalent vaccine was a mixture of four serotype-specific human-bovine reassortants, which were individually produced in DBS FRhL2 cells at titers ranging from 1053 to 1058 pfu/mL, and then stored frozen. The four reassortants were thawed and combined immediately prior to administration. A Vero cell manufacturing process was developed by Wyeth, which represents an attractive alternative cell substrate with significant manufacturing advantages (titers ranging from 1075 to 108 pfu/mL). Proof of concept studies will be performed with Vero cell produced material, which will continue into development, unless deficiencies in this material compared to the previously tested DBS FRhL2 cell material are identified.

In the initial proof of concept testing, we will prepare bulk vaccine in 1-L microcarrier cultures of Vero cells based on a process developed by Wyeth using human-bovine reassortants. Formulations, drying processes and milling conditions will be screened to generate dried powders with each individual strain, which will be subsequently tested for stability. Once satisfactory results are obtained with each individual reassortant, the stability of the combined quadrivalent mixture will be verified.

From the studies by Wyeth with Rotashield®, it is known that about 90 mg of buffer (sodium bicarbonate and citric acid) is required in the final formulation to allow rotavirus to survive the acid environment of the stomach and transit to its final destination in the upper small intestine. Similar amounts of buffer will be incorporated into the dried powder and then the powder will be fabricated into a quick dissolving tablet using standard powder mixing and tableting processes.

Preclinical Testing

Animal models that can provide relevant data with bovine rotavirus strains are restricted to a murine model with a limited ability to predict human safety and immunogenicity. Additionally, the quadrivalent human-bovine reassortant vaccine already has been tested in humans. Consequently, we do not anticipate that significant animal testing of the stabilized quadrivalent vaccine will be required prior to clinical testing. We will perform extensive stability testing to demonstrate that the infectivity of the rotavirus vaccine doesn’t change during storage. In addition, a battery of in vitro tests will be performed to demonstrate product purity, safety, identity and consistency of manufacture and that the key physical, chemical and immunological characteristics of the rotavirus strains are comparable to the previously tested strains.

Clinical Testing

The clinical program of the stabilized vaccine will exploit the prior human safety, immunogenicity and dose ranging data with individual monovalent reassortants and combined quadrivalent vaccine. The initial phase 1 study will compare the safety of a single dose of the stabilized quadrivalent vaccine in 10 adults to the previous formulation of quadrivalent vaccine in 10 adults. If the vaccines have similar safety profiles, we will proceed to phase 2 clinical testing of a single dose of stabilized quadrivalent vaccine in

Portions of this Exhibit, indicated by the mark “[***],” were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant’s application requesting confidential treatment pursuant to Rule 406 of the Securities Act of 1933, as amended
Market and Competition: There are two competitors (Merck and GSK) developing rotavirus vaccines. The Aridis vaccine will be competitively superior to both, because no refrigeration will be required and administration will be as a 2 dose quick dissolving wafer assuring full dose receipt. Both competitor vaccines require refrigeration, administration as a liquid (with inherent inconsistencies in dosing), and either a 3-dose regimen or lengthy mixing procedures. We will identify an established marketing partner, who in combination with a superior product will allow us to capture a large share of the rotavirus vaccine market.

Project Timelines for Quadrivalent Vaccine:

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<tr>
<th>Project Phase</th>
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<tr>
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<td>2. Phase 1 clinical (safety)</td>
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<tr>
<td>3. Phase 2 clinical in children &amp; infants (safety &amp; immunogenicity)</td>
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<tr>
<td>4. Phase 3 clinical development (efficacy, expanded safety, mfg consistency, bridging)</td>
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<td>5. File BLA</td>
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<td>6. Regulatory review &amp; approval</td>
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Portions of this Exhibit, indicated by the mark “[***],” were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant’s application requesting confidential treatment pursuant to Rule 406 of the Securities Act of 1933, as amended

APPENDIX G—Developing Countries

For the purpose of this Agreement, Developing Country will include the following countries:

1 Afghanistan
2 Albania
3 Angola
4 Armenia
5 Azerbaijan
6 Bangladesh
7 Benin
8 Bhutan
9 Bolivia
10 Bosnia & Herzegov
11 Burkina Faso
12 Burundi
13 Cambodia
14 Cameroon
15 Central Afr Rep
16 Chad
17 Comoros
18 Congo, Dem Rep
19 Congo, Rep
20 Cote d’Ivoire
21 Cuba
22 Djibouti
23 Eritrea
24 Ethiopia
25 Gambia
26 Georgia
27 Ghana
28 Guinea
29 Guinea-Bissau
30 Guyana
31 Haiti
32 Honduras
33 Indonesia
34 Kenya
35 Korea, DPR
36 Kyrgyz Republic
37 Lao PDR
38 Lesotho
39 Liberia
40 Madagascar
41 Malawi
42 Mali
43 Mauritania
44 Moldova
45 Mongolia
46 Mozambique
47 Myanmar
48 Nepal