CLINICAL TRIAL AGREEMENT

THIS CLINICAL TRIAL AGREEMENT ("Agreement") is made and entered into as of 04 day of SEP 2020 (hereinafter "Effective Date") by and between:

Serum Institute of India Pvt. Ltd. a company incorporated under Companies Act, 1956 having its registered office at 212/2, Off Soli Poonawalla Road, Hadapsar, Pune 411028, India. (hereinafter "Sponsor");

DiagnoSearch Life Sciences Pvt. Ltd. a company incorporated under Companies Act, 1956 having its registered office at 702, Dosti Pinnacle, Plot No. E-7, Road No. 22, Wagle Industrial Estate, Thane- 400604, Maharashtra, India (hereinafter "CRO"), acting on behalf of **Serum Institute of India Pvt. Ltd.** a company incorporated under Companies Act, 1956 having its registered office at 212/2, Off Soli Poonawalla Road, Hadapsar, Pune 411028, India. (hereinafter "Sponsor");

Dr. Tayade Deepak Narayan, MGM Medical College and Hospital, N-6, CIDCO, Aurangabad 431003, Maharashtra, India hereinafter referred to as the 'Principal Investigator' or 'Investigator'; AND

MGM Medical College and Hospital, a deemed university having its office at N-6, CIDCO, Aurangabad 431 003, Maharashtra, India an unit of Mahatma Gandhi Mission (a Charitable Trust registered Societies Registration Act and Bombay Public Trust Act) acting through its authorized signatory, Dr. Rajendra Bohra, Dean_being authorised to sign this Agreement (hereinafter referred to as the **"Institution"** which expression shall mean and include unless repugnant to the context, its successors and permitted assigns).

The Sponsor, the CRO, the Investigator, and the Institution shall hereinafter be referred to individually as "*Party*" and collectively as "*Parties*".

WHEREAS CRO is engaged in the business of managing and providing clinical research services and related activities and has been appointed by Sponsor to arrange and administer a clinical Study entitled: **An Open label, Randomized, Active-controlled, Multi-centric phase II/III Study in Indian Toddlers and Infants to Assess the Immunogenicity and Safety of SIIPL HEXASIIL™ (DTwP-HepB-IPV-Hib) Vaccine in Comparison to SIIPL Pentavac (DTwP-HepB-Hib) + Poliovac (IPV) vaccines Administered as Separate Injections**. Protocol no. – SII-wHEXA/IN-02, Version 2.0, dated 26th Jun 2020 or such other version as may be mutually agreed and finalized by the Parties to the Agreement("the Protocol") and has entered into an agreement with Sponsor or one of its affiliates concerning the management, funding and administration of the Study;

AND WHEREAS Sponsor intends to appoint Investigator relating to the said SII-wHEXA/IN-02**,** Clinical Study and requires CRO to supervise the services / activities to be undertaken by Investigator along with the services provided by CRO to Sponsor.

AND WHEREAS Institution and Investigator have each reviewed sufficient information regarding Sponsor's vaccine (the "Study Vaccine"), the Protocol for the Study and the Investigator Brochure to evaluate their interest in participating in the Study and each desires to participate in the Study as more particularly described in this Agreement.

NOW, THEREFORE, subject to the terms, conditions and covenants hereinafter set forth CRO, Investigator and Institution agree as follows.

Article 1 – The Study

1.1 The Institution and the Investigator undertake to conduct the Study in strict accordance with various guidelines and applicable regulatory requirements including but not limited to (a) the current World Medical Association Declaration of Helsinki titled, "Ethical Principles for Medical Research Involving Human Subjects;" (b) the current ICH Harmonised Tripartite Guideline for Good Clinical Practice (CPMP/ICH/135/95); (c) the current Indian Ministry of Health and Family Welfare guideline for good clinical practice titled, "Good Clinical Practices for Clinical Research in India;" (d) the current Indian Council of Medical Research ethical guideline for clinical research titled, "Ethical Guidelines for Biomedical Research on Human Subjects;" (e) the written requirements of all reviewing Institutional Ethics Committees and institutional review boards (collectively, the Institutional Ethics Committees) and subsequent amendments if any, to the above guidelines and such other regulations that may be pronounced by a competent authority from time to time. It is understood and agreed that, in the event of a conflict among any of the Standards, the most stringent Standard shall apply.

1.2 The Institution and the Investigator undertake to conduct the Study in an efficient and professional manner under the provisions of this Agreement and will use their best efforts to complete the Study within the time period estimated as mentioned in Schedule C.

1.3 Parties agree to coordinate the day-to-day management of the Study with each other and to comply with and perform their respective responsibilities and activities as set forth in this agreement.

1.4 CRO will act as a contact point for the Investigator, Institution and Sponsor, regarding any issue which may arise in the implementation of the Study.

1.5 The Study shall be carried out at the Institution under the review of its Ethics Committee/Institutional Review Board or an appropriate independent review committee of scientists and other qualified individuals as set forth in the Declaration of Helsinki (any such Board, body or committee to be referred to hereinafter as "IRB"), in compliance with the applicable local regulation, Sponsor's Standard Operating Procedure (SOP)s, if required; Institution's own SOP, the Protocol which is approved by Sponsor, Investigator and the IRB

and a copy of which is attached hereto as Schedule A (and any subsequently approved Protocol amendments), and the terms of this Agreement and under the supervision of the Investigator.

1.6 Before commencing the Study, the Investigator will seek approval to conduct the Study from the IRB and shall obtain consent as per applicable local regulations of all Study Subjects (or, if permitted their legal representative) who participate in the Study, including consent to allow Sponsor and its Affiliates (hereinafter defined) to access personal and medical information as necessary to monitor the Study or to receive and use Study data. Investigator must deliver to the Sponsor/CRO the written approval for the conduct of the Study, the approved informed consent form and the terms of the Protocol from the IRB. In this Agreement "Affiliate" means any entity that controls, is controlled by, or is under common control with the party being referred to. In this context, "control" shall mean (1) ownership by one entity, directly or indirectly, of at least fifty percent (50%) of the voting stock of another entity; or (2) power of one entity to direct the management or policies of another entity, by contract or otherwise;

1.7 The Sponsor/CRO is under no obligation to release Study Vaccine or any other related supplies as defined in Protocol to the Investigator unless and until satisfactory proof of IRB approval is submitted to the CRO.

1.8 Institution and Investigator shall use Study Vaccine only to conduct the Study in accordance with the Protocol; shall not chemically, physically or otherwise modify Study Vaccine, unless specifically required to do so by the Protocol; and shall handle, store, ship and dispose of Study Vaccine with appropriate care and in compliance with manufacturer's instructions in writing or over an email and all applicable local, state and federal laws, rules and regulations, including, but not limited to, those governing hazardous substances.

1.9 Institution and Investigator shall not charge any Study subject or third-party payer for Study procedures required by the Protocol that are paid for by CRO/Sponsor under this Agreement or for any Study Vaccine that is provided or paid for by CRO/Sponsor.

1.10 The Investigator hereby warrants that he/she has received a copy of the Investigator Brochure and has read and understood its contents.

1.11 Any change, amendment or modification to this Agreement or any Schedule hereto must be authorized in writing by all Parties. Provided however those changes to the Protocol may be made (i) in accordance with procedures outlined in the Protocol, or (ii) with the agreement of the Investigator, Institution and Sponsor. Any changes to the Protocol shall be accompanied by such notification, review and/or approval of the IRB as may be required by applicable law and/or the Protocol. The Institution and the Investigator shall not consent to any change in the Protocol requested by the relevant IRB without the prior written consent of CRO or SPONSOR.

1.12 The Investigator may appoint such other individuals as she/he, in accordance with applicable law and/or the Protocol, may deem appropriate as sub-investigators to assist in the conduct of the Study (such other individuals are collectively referred to hereinafter as "Sub-investigators"). All such Sub-investigators must be approved by CRO / Sponsor and

copies of their curriculum vitae and other regulatory documentation as required (such as financial disclosure forms) forwarded to CRO/ Sponsor. The Investigator shall be responsible for leading any such team of Sub-investigators, and shall ensure that such Sub-investigators are properly qualified and licensed.

1.13 The Investigator hereby certifies and undertakes that s/he is not and has not been debarred under the Drugs and Cosmetics Acts 1940, Drugs and Cosmetics Rules, 1945, and any legislation in connection with any of the services or work provided hereunder as amended, or any other similar legislation, or excluded by a regulatory authority from participating in the development or approval of a drug or biological or disqualified by a regulatory authority as a clinical investigator, and that this certification may be relied upon in any applications to the Federal Food and Drug Administration for drug approval. Furthermore, the Institution and Investigator hereby certify and undertake that they will not use the services of a person so debarred, and that such certification can be similarly relied upon. It is understood and agreed that this certification imposes a continuing obligation upon the Institution and Investigator to notify the CRO/Sponsor of any change in the truth of this certification.

1.14 The Investigator acknowledges and agrees that its obligations set forth herein are of a personal nature and that the character, competence and reputation of the Investigator were instrumental in the Sponsor's / CRO's selection of the Investigator for the conduct of the Study. Consequently, it is agreed that the Investigator may not in any way transfer, cede or assign, directly or indirectly, the rights granted herein without the express written authorization of the CRO. If Investigator should become unwilling or unable to conduct the Study, the Institution shall consult with the CRO regarding the appointment of a new principal investigator. In such an event, CRO shall supervise the services / activities undertaken by new principal investigator relating to the Study along with the services provided by CRO to Sponsor. If both Parties cannot agree on a substitute, all further enrolment of subjects into the Study shall immediately cease and decision on the continuation of subjects already recruited in the Study will be taken jointly by CRO & Sponsor on a case to case basis.

1.15 The Institution and the Investigator shall comply with ICH/GCP, the Protocol and all applicable laws, rules, regulations and documentation of the Study (hereinafter "Regulatory Requirements") in the performance and documentation of the Study. Without in any way limiting the foregoing, these obligations shall include the following:

(a) The Institution and the Investigator shall, as the same may be required of them by Regulatory Requirements, or specific instruction of CRO prepare, document and maintain records and case histories on the case report form supplied by the CRO, retain such data and records after completion of the Study, and obtain advance informed consent from each of the subjects, or their duly authorized representatives, as defined in the Protocol participating in the Study (hereinafter "Subjects").

(b) The Institution and Investigator shall administer the preparation of laboratory tests for shipment (e.g., centrifuge, freezing, packing, labeling) and arrange for courier services with respect to the shipment of biological samples as directed / instructed by the Sponsor (e.g., completion of shipment forms, ensure the relevant shipment procedure);

(c)The Institution and Investigator shall report adverse events and serious adverse events as required by the regulation in force and amended from time to time. The definition of 'Adverse Events' and 'Serious Adverse Events' and the reporting procedure included in the Protocol.

(d) Upon reasonable notice and at reasonable times during the term of this Agreement, Institution and the Investigator shall permit representatives of the CRO and/or the Sponsor to examine their facilities, to validate case reports against original data in their files, to make copies of relevant records and monitor the work performed hereunder, and to determine the adequacy of the facilities and whether the Study is being conducted in compliance with this Agreement, and Regulatory Requirements. CRO/Sponsor representative should also be permitted to review the relevant financial documents related to the Study including but not limited to quotations, invoices, employee agreement, salary slips, attendance records, subject compensation logs, annual maintenance contract (applicable for instruments, equipments being used in the Study) agreements, physical verification of assets.

(e) The Investigator will keep appropriate records of Study Vaccine received, dispensed, used, and returned to pharmacy/storage (and returned to CRO/Sponsor in accordance with Regulatory Requirements.

1.16 Institution and Investigator agree to, inform Sponsor / CRO promptly if they become aware of material non-compliance with the Protocol, ICH Good Clinical Practices, or any applicable laws, rules or regulations; incomplete or inaccurate recording of data; or any significant misconduct or other matters of concern relating to the performance of the Study at Institution.

1.17 Institution and Investigator agree that Sponsor / CRO may make public the names of the Investigator and the Institution as part of a list of Investigators and Institutions conducting the Study when making either protocol or results summary register postings. Institution and Investigator agree that Sponsor may make public the amount of funding provided to Institution by Sponsor for the conduct of the Study and may identify Institution and Investigator as part of this disclosure. Investigator agrees that, if Investigator, consistent with the terms of this Agreement, speaks publicly or publishes any article or letter about a matter related to the Study or Study Vaccine or that otherwise relates to Sponsor, Investigator will disclose that he/she was an investigator for the Study.

1.18 The CRO/ Sponsor shall provide, without cost, sufficient amounts of the Study Vaccine to conduct the Study. The Institution and Investigator may not use or dispose of the Study Vaccine in any way other than as specified in the Protocol.

1.19 Institution agrees that any nationally-licensed medicinal products that are not the subject of the Study but are required for the routine care of a Study subject during and after the Study for the disease or condition to which the Study relates are expected to be available to the Study subject and funded through the usual operations of the local healthcare system independently from the Study and without any cost from CRO and/or Sponsor.

1.20 Institution/Investigator agree to record all side effects including laboratory abnormalities, whether serious or not, of which they may become aware in the appropriate Case Report Forms (CRFs) and in medical files of the subjects in accordance with the requirement set out in the Protocol.

Article 2 – Compensation

2.1 Recruitment for this Study will be through competitive enrolment, and Institution and Investigator may enroll more or less Study subjects, depending on the enrolment of Study subjects at other sites, which shall be coordinated by the Sponsor and the CRO. Investigator agrees that enrolment in the Study will be restricted pursuant to the Protocol based on the Inclusion / Exclusion criteria. CRO/Sponsor retain the right, to be exercised at CRO's/Sponsor's sole discretion, to terminate this Agreement for any reason, including poor enrolment.

2.2 The Investigator /Institution shall complete and deliver the work to CRO/Sponsor (including any technical report and financial statement that may be required) by the date fixed in this Agreement or any schedule annexed to this Agreement or any additional period that may be granted by CRO/Sponsor by written communication in writing which is agreed by both the Institution and Investigator, in writing. If the payment schedule on the face of this Agreement provides for a final payment upon completion of the work, this final payment shall be made only after satisfactory receipt of all agreed deliverables called for under this Agreement, including any technical report and financial statement.

2.3 In full and complete consideration of Investigator's and Institution's participation in the Study and of their covenants and obligations hereunder, and to cover their respective costs connected with the conduct of the Study, CRO shall pay amount as set forth in Schedule B hereto. Said amount is based on Subjects completing the Study in full compliance with the Protocol for whom completed case report forms have been delivered by Investigator to CRO/Sponsor or CRO's/Sponsor's designee and all queries have been resolved. The Parties agree that these payment terms are as agreed in the schedule of attached to this Agreement.

2.4 Institution agrees to apply all funds received from CRO, including all interest ccrued on such funds, if any, toward the performance of the Study. Within the Study Budget as provided in Schedule B, Institution may adjust budget line item amounts as reasonably necessary for performance of this Agreement; provided, however, that such adjustments shall not exceed ten percent (10%) of any line item without the prior written approval of Sponsor. Without the prior written approval of Sponsor/CRO, the total payments to Institution shall not exceed the amounts set forth in the Study Budget.

2.5. If a subject does not complete the Study, the amount payable will be pro-rated according to the number of visits attended by said Subject; provided that, prior to any payment by CRO completed case report forms for such Subjects have been accepted by CRO/Sponsor.

2.6 For all subjects who fail to get enrolled (Screen failure), the amount payable will be Rs. 3000 per subject. Notwithstanding the foregoing, the maximum number of screen failures for which Investigator shall be compensated shall not exceed 10% of randomized subjects at site.

2.7 There is no payment for Subjects who are chart screened, but who do not have a informed consent as required by the regulation for the research project and do not complete any of the Screening Visit procedures.

2.8 All payment obligations are conditioned upon Institution's and Investigator's compliance with the standards identified in this Agreement. CRO will not make payments for or, if payment has been made, Institution/Investigator will repay to CRO any payments for Study visits, procedures, or other work associated with a Study subject if CRO/Sponsor determine that the Study visits, procedures or other work associated with the subject was not conducted by Investigator, sub investigator or Study Staff in compliance with the Protocol, applicable law or regulation, or ICH/ GCP Guidelines.

2.9 Investigator and Institution are responsible for all applicable direct taxes including but not limited to State, Central and municipal taxes presently or hereafter imposed upon any and all such amounts, including but not limited to professional and incomes taxes, Wealth Tax, Transaction tax. As the sponsor has SEZ status and operates out of SEZ, CRO agrees to supply the services without charging GST. Supply of goods or services or both made to SEZ developer or unit are Zero rated under Section 16 (1) (b) of GST Act 2017. CRO shall clearly mention in its all invoices "Supply to SEZ without charging IGST against Letter of Undertaking (LUT) no.

2.10 The payments represent all Study costs, and no other money will be payable by CRO.

2.11 The Parties hereby agree and covenant that Investigator / Institution will raise invoices in the name of Sponsor which will be submitted to and certified by CRO. The Parties agree that CRO shall act as a pure agent of Sponsor and facilitate payments to be made to the Investigator / Institution. Invoices shall be sent to CRO at the following addresses:

DiagnoSearch Life Sciences Pvt. Ltd.

702, Dosti Pinnacle, Wagle Estate

Thane – 400 604, India

2.12 All amounts payable to the Investigator / Institution will be subject to Tax Deduction at source as required by the relevant tax provisions

2.13 It is understood that Sponsor enjoys exemption from GST by claiming status of Special Economic Zone (SEZ) unit and accordingly invoices will be raised without levying GST. Further, as per Rule 96A of Central Goods and Service Tax Act, 2017 Parties agree that:

(i) If invoices issued by CRO, Investigator and Institution are without levying GST, then such invoices shall specifically mention - "**Supply to SEZ Unit or SEZ Developer for Authorized Operations under Bond or Legal Undertaking without payment of Integrated Tax."** Every such invoice must also mention the GSTIN No. 27AABCS4225M2Z6 of our SEZ unit.

(ii) However, if CRO, Investigator and Institution opt to levy GST, then such invoices shall specifically mention - "**Supply to SEZ Unit or SEZ Developer for Authorized Operations on payment of Integrated Tax. The Integrated Tax paid will have to be claimed as refund and Sponsor will not reimburse GST paid."** Further these invoices should also mention GSTIN No 27AABCS4225M2Z6 of our SEZ unit.

(iii) However, the Sponsor shall reimburse the amount including but not limited to tax liability, interest and penalty thereon imposed on CRO/Investigator/Institution by any competent authorities arising out of breach, action, inaction or failure to comply with provisions of Central Goods and Service Tax Act by Sponsor.

2.14 Cheques should be drawn and made payable to MGM Medical college ,Aurangabad and delivered to the following address:

MGM Medical College & Hospital,
N-6, CIDCO, Aurangabad – 431003

Article 3 – Institution Staff and Facilities

3.1 The Institution acknowledges that all payments for all necessary laboratory and other facilities, equipment, supplies (other than the Study Vaccine), and physicians and clinical support staff required to discharge its obligations under this Agreement are provided for in the compensation schedule as provided in Schedule B. Institution shall ensure that all such facilities and staff are arranged to support the Study.

3.2 All matters, terms and payment of compensation, benefits and other conditions of engagement of any nature for the Investigator, any Sub-investigators and any support staff used in the Study shall be solely a matter between the Institution and such individuals, regardless of whether such individuals are considered employees, agents or independent contractors of the Institution and no amounts payable by CRO under this Agreement shall be considered to be a salary payment by CRO or Sponsor to Investigator , sub-investigator or support staff. All Institution/Investigator staff performing Services under this Agreement shall at all times be employed or engaged by Institution/Investigator and shall not be employees or subcontractors of CRO or Sponsor. Accordingly Institution/Investigator shall deal with all issues relating to the employment or engagement of the Institution/Investigator staff including without limitation: payment of salary and any employment-related benefits; deduction of all Pay As You Earn, National Insurance and any other employee-related taxes and contributions; disciplinary and performance issues; grievances; issues relating to a member of staff's ill health; and issues relating to a member of staff's terms and conditions of employment or engagement

3.3 The Investigator and the Institution will take appropriate steps to inform each physician, Study staff of the terms of this Agreement, obtain their agreement to abide by the terms and conditions of this Agreement and ensure that those persons comply with the terms and conditions of this Agreement. "**Study Staff**" mean the individuals providing services under the supervision of the Investigator with respect to the conduct of the clinical study,

including without limitation sub-investigators, study coordinators, and other Trial Site employees, agents, any support staff etc engaged for effective performance and execution of the Trial.

3.4 During the term of the Agreement, Institution and Investigator agree to permit representatives of the CRO and the Sponsor to examine at any reasonable time during normal business hours the facilities where the Study is being conducted, the Study data including original patient records and any other relevant information necessary to confirm that the Study is being conducted in conformance with the Protocol and in compliance with applicable laws and regulations. Institution and / or Investigator shall notify Sponsor / CRO in writing within three (3) business days of becoming aware of any FDA or other government inspection or inquiry concerning the Study or within twenty four (24) hours of any surprise government inspection or inquiry concerning the Study. Investigator and Institution agrees to promptly take any reasonable actions requested by CRO/Sponsor to cure deficiencies noted during an inspection or audit.

Article 4 – Reports

4.1 The Investigator will maintain accurate and complete records in accordance with Regulatory Requirements and the Investigator will comply with all reporting requirements contained in the Protocol/SOPs/any other Sponsor's specification. The Investigator will provide the CRO/Sponsor with copies of all reports provided to the Investigator's IRB/IEC.

4.2 The Investigator shall keep the CRO advised of the status of the Study via periodic reports, which are to be transmitted via electronic means or other mutually agreeable method. The periodicity of reports shall be mutually agreed to by both Parties. If required by the Sponsor, there shall also be a final report of the Study presented to the CRO/Sponsor.

4.3 All case report forms and other reports submitted to the CRO and all data generated hereunder shall become the property of the Sponsor and may be used by the Sponsor for any purpose without further obligation or liability to the Institution and/or the Investigator.

4.4 A Subject's individual medical records shall remain the property of the Investigator / Institution. The Investigator will, where duly authorized or where allowed by law, provide or make such medical records and individual Subject data available to the CRO / Sponsor and governmental agencies.

4.5 Institution shall make and retain records regarding the Study as required by the Protocol, applicable law or regulation, or ICH/GCP Guidelines, and in accordance with Institution's standard archiving procedures. Institution will retain such records for a minimum of three (3) years from conclusion of the Study. Thereafter, Institution will contact Sponsor prior to any destroying such records and will retain the records if requested by Sponsor.

4.6 All Study data and reports and any other information that generated, provided to and created by Investigator or Institution, in the performance of their duties hereunder remain the property and confidential information of Sponsor at all times. The Parties hereby agree that, subject to the applicable laws and requirements and each Party's rights and obligations under this Agreement Sponsor shall be the sole owner of all the information mentioned above and shall have the unrestricted right during and after the term of this

Agreement, to use the same for any purpose;

4.7 The Investigator agrees not to provide the Study data to any third party or to use the Study data in any way without the Sponsor's prior written consent. The Investigator also agrees to not identify, Subjects in order to benefit research conducted or sponsored by any third party, without the Sponsor's prior written consent.

Article 5 – Inventions

5.1 The Institution and Investigator hereby acknowledge and agree that Sponsor shall own all right, title and interest in and to the Protocol, all intellectual property rights arising from the Study including but not limited to reports, discoveries, data, inventions, developments, structures, designs, protocols, biochemical strategies, biological materials, formulations, compositions, analytic methodology, chemical and quality control procedures, devices, know-how, technologies, techniques, systems methods, products, processes, algorithms, concepts, formulas, processes, ideas, writings, trade names, business names, logos, design marks or other proprietary marks, technical research, development and manufacturing data, trade secrets or utility models in any stage of development, whether or not patentable and whether or not reduced to practice, and all improvements, modifications, derivative works from, other rights in and claims related to, any of the foregoing and whether or not made, discovered, conceived, invented, originated, devised or improved by the Institution, Investigator , Sub investigator and Study Staff in the performance of the Study or relating to the Study Vaccine or which incorporate Sponsor's confidential Information (collectively, the "Inventions"), and the Institution and Investigator hereby expressly and irrevocably assign, and will cause Sub-investigators and Study Staff to assign, to the Sponsor, all right, title and interests that they may have in any such Inventions without payment of additional consideration.

5.2 The Investigator shall promptly disclose to the CRO/Sponsor in writing any and all Inventions generated pursuant to this Agreement and undertake not to use such Inventions than for the purposes of this Agreement without the prior written consent of the Sponsor.

5.3 If CRO/Sponsor requests, Institution and Investigator shall execute, and will cause the Sub investigators and Study Staff to execute, any instruments or testify as Sponsor deems necessary for Sponsor and/or Sponsor's Affiliates to draft, file, and prosecute patent applications, defend patents, or to otherwise protect Sponsor 's interest in the Inventions . CRO/Sponsor will reasonably compensate Institution and/or Investigator (as applicable) for the time devoted to such activities and will reimburse Institution and or Investigator (as applicable) for reasonable and necessary expenses incurred. The amount of compensation to be paid by the Sponsor / CRO shall be mutually agreed between the Parties before filing any application. The Institution and the Investigator hereby grant to Sponsor an exclusive, worldwide, irrevocable, non-restrictive and full royalty free license under such Inventions to exploit the same for any purpose whatsoever.

5.4 The obligations of this Section shall survive termination of this Agreement.

Article 6 – Publication; Publicity

6.1 Press Releases. Except for publications pursuant to Article 6.2, in the event a Party wishes to issue a press release or other public announcement (collectively, "Press Release") regarding this Agreement, the Study, or the termination of or other information related to the Study, such Party will submit the intended Press Release to the designated officials of other Party for review at least thirty (30) days in advance of the date of the intended release. In the event a Party does not approve the intended Press Release in writing, the non-approving party shall discuss in good faith modifications to the Press Release with the Party proposing the Press Release, but neither Institution nor Investigator shall release a Press Release without the prior written approval of Sponsor, such approval not to be unreasonably withheld or delayed. The requirements of this Article 6.1 shall not apply to the extent that a Party is required to disclose information by applicable laws and Requirements or order of a governmental agency or a court of competent jurisdiction; provided, however, that the Party required to make such a disclosure will (i) provide prior written notice thereof to other Party before such disclosure, (ii) consult in good faith with other Party with respect to such disclosure, and (iii) provide other Party sufficient opportunity to, and cooperate with any reasonable request of other Party to object to any such disclosure or request confidential treatment thereof.

6.2 Investigator Publications; Publications by the Parties. The Parties shall undertake to make or coordinate a joint publication or presentation of the Study results ("Joint Publication"). And such Joint Publication shall comply with the obligations of ICMJE (International Committee of Medical Journal Editors), including matters of authorship. Any decision to make or coordinate a Joint Publication or presentation of the Study results shall be discussed and agreed by the Parties before implementing the same, and the content of such Joint Publication shall be reviewed and agreed by the Parties.

6.2.1 Each Party may also publish or orally present the Study results (a "Sole Publication"), consistent with high scientific standards and in an appropriate scientific forum, provided that such Sole Publication does not also disclose any other Party's Confidential Information other than the Study results. The Parties agree that any Sole Publication shall be made only after the Joint Publication and shall refer to such Joint Publication, provided that the Joint Publication is published or presented within twelve (12) months after the last subject's visit.

6.2.2 In the case of a Sole Publication by a Party, the Party seeking to publish or present will submit to the other Party each such proposed publication, written presentation, or summary of each proposed oral presentation, as the case may be, related to the Study, and the other Parties must receive such proposed publication, presentation, or summary, as applicable, at least thirty (30) days before the time of submission to any third party, and in any case no less than forty-five (45) days prior to the proposed date of the publication or presentation. Such other Parties will have at least thirty (30) days from receipt in which to review each proposed publication, presentation or summary of proposed oral presentation, as the case may be. Upon such review a Party may require a delay in any publication or presentation for up to one hundred twenty (120) days from the date of such request in order to file patent applications relating to an Invention.

6.2.3 A Party may require the removal of its Confidential Information contained in any proposed publication or presentation, and any Party may require (i) the deletion of that Party's name or the name of any of its respective Affiliates and (ii) the deletion or correction of any information that may, in such Party's view, be inaccurate, misleading, or inappropriate; provided, for the avoidance of doubt, that a Party may publish or orally present Study results in accordance with the requirements as set forth in Article 10.2. Notwithstanding the foregoing, a Party may not require the removal of any information from the proposed Investigator publication that would prevent Investigator from presenting in such publication or presentation a full and fair description of the Study results. Once any information has been so reviewed and approved by each of the Parties and Investigator, as applicable, for publication or presentation, a Party may include such information in subsequent publications, presentations or submissions without the need to re-submit such information to the other Parties for pre-review.

6.2.4 The rights and obligations of Article 6.2 shall continue in effect until five (5) years following the expiration or any termination of this Agreement.

6.3 License to Investigator Publications. Sponsor and institution shall have a royalty-free, nonexclusive, and irrevocable license to reproduce, translate, display, publish, use, and distribute Investigator publications and to authorize others to do so with the consent of the Investigator.

6.4 Authorship, Patent Protection and Notification of Funding. Any oral presentation of the Study will acknowledge any publication by a Party regarding the Study and will state that the Study sponsored by Sponsor was carried out in collaboration with the Parties.

Article 7 - Confidential Information

7.1 In connection with the performance of Study services, CRO and/or Sponsor may provide, or have provided, certain Confidential Information (hereinafter defined) to Institution and Investigator solely for the purpose of enabling the Institution and Investigator to conduct the Study. Institution and Investigator agree not to use, or permit the use of Confidential Information except for the performance of this Agreement and not to disclose Confidential Information to third parties except as necessary to conduct the Study and under an agreement by the third party to be bound by the obligations of this Section. Institution shall safeguard Sponsor / CRO Confidential Information with the same standard of care that is used with Institution's confidential information, but in no event less than reasonable care.

7.2 In this Agreement "Confidential Information" means all information (including, without limitation, study protocols, case report forms, clinical data, other data, reports, specifications, computer programs or models and related documentation, know-how, trade secrets, or business or research plans, processes, procedures) of Sponsor / CRO or their Affiliates that are: (1) provided to Institution and Investigator in connection with this Agreement or the Study; (2) Study data, results, or reports created by Institution, Investigators, Sub-investigators or Study Staff in connection with the Study (except for a Study subject's medical records); and (3) cumulative Study data, results, and reports from all sites conducting the Study.

7.3 The obligations of confidentiality and limited use under this Section shall not extend to:

(i) any information that is or becomes publicly available, except through breach of this Agreement;

(ii) any information that Institution/ Investigator can demonstrate that it possessed prior to, or developed independently from, disclosure or development under this Agreement;

(iii) any information that Institution/ Investigator receives from a third party (other than Sponsor or its Affiliates) which is not legally prohibited from disclosing such information;

(iv) any information that is appropriate to include in an Institution Publication made in accordance with this Agreement or

(v) a Study subject's specific medical information, as necessary for the appropriate medical care of the subject.

7.4 Notwithstanding any termination of this Agreement the provisions of confidentiality will apply for a period of ten (10) years from the date hereof.

7.5If Institution or Investigator is required by law to disclose certain confidential information to statutory authorities then it shall do so based on legal advice from its legal advisors and only to the extent required. It shall also intimate the CRO and Sponsor immediately on receipt of such disclosure request / notice / order so that CRO / Sponsor can take necessary steps if they wish to in order to limit the dissemination of the Confidential information.

Article 8 – Independent Contractor

The relationship of Sponsor, CRO, Institution and Investigator under the Agreement is that of independent contractors. The Parties do not intend to create a partnership or joint venture between themselves. Institution and/or Investigator are not an agent of CRO / Sponsor and have no right or authority to bind CRO and/or Sponsor in any manner to any agreement or obligation whatsoever.

Article 9 – Term and Termination; Effect of Termination

9.1 This Agreement shall commence on the Effective Date and shall, unless sooner terminated as herein expressly provided, continue until completion of the Study.

9.2 This Agreement may be terminated by CRO/Sponsor, at any time, with or without cause, immediately upon notice to Investigator to this effect; a notice by CRO and/or Sponsor that the Study is terminated shall also constitute effective notice of termination of this Agreement.

9.3 Upon termination or expiry of this Agreement:

(a) Institution and Investigator will not enroll additional Study Subjects, and will cooperate with CRO and Sponsor in the orderly discontinuation of the Study;

(b) the Parties will meet and confer promptly to determine an appropriate phase-out for Subjects already enrolled in the Study;

(c) Institution and Investigator shall use reasonable efforts to revoke any financial obligations incurred and shall avoid incurring any additional costs in connection with the Study;

(d) Investigator and Institution shall be entitled to receive payment by CRO of any amounts accrued as of the date of termination for Study- related work actually performed and expenses actually and reasonably incurred; in the event CRO has pre-paid Investigator and/or Institution for Study services not yet performed as of the date of termination, Investigator shall promptly refund to CRO all such pre-payments;

(e) Investigator and Institution shall deliver to CRO/Sponsor all case report forms and any other reports or documentation prepared during the course of the Study, whether completed or not, in their possession or under their control; and

(f) Investigator and Institution shall either return to CRO / Sponsor or destroy, in accordance with CRO / Sponsor's instructions and / or the terms of the Protocol, all unused or partially used Study Vaccine in their possession or under their control.

(g) All Confidential Information of Sponsor (except for such records that the Institution and Investigator are required by law or regulation to retain) which in the Institution's and/or Investigator's possession shall be promptly delivered to Sponsor, or at Sponsor's discretion destroyed with destruction certified in writing.

(h) Institution represents that medical care for the disease or condition to which the Study relates is available to Study subjects following the Study in accordance with local standard of care through the usual operations of the local healthcare system, and that upon completion of the Study, Institution will appropriate transition Study subjects from the Study to such medical care or refer Study subjects to a health care provider for such medical care.

(i) No termination hereunder shall constitute a waiver of any rights or causes of action that either Party may have based upon events occurring prior to the termination date. Articles 5, 6, 7, 10, and 11 shall survive any termination or expiration of this Agreement, as well as any other terms which by their intent or meaning are intended to so survive.

9.4 The Institution is also entitled to terminate the present agreement for any breach of the terms of the agreement by the Sponsor, by issuing 30 days notice to it, in case such breaches are not cured by it within stipulated period.

Article 10 – Indemnification

10.1 Sponsor shall defend, indemnify, save and hold harmless the Institution, its directors, officers, employees, agents, assigns and the Investigator (each, an "Institution Indemnitee") from any and all liabilities, claims, actions or suits by third parties for bodily injury or death, that arise out of Institution's administration of the Study Vaccine or procedures provided for by the Protocol ("Institution Claim"), provided that Sponsor shall not indemnify any Institution Indemnitee for any Institution Claim to the extent the Institution Claim arose out of:

(a) failure by Institution Indemnitees to conduct the Study in accordance with (i) this Agreement and the Protocol, (ii) all written instructions delivered by CRO/Sponsor concerning conduct and administration of the Study, (iii) all applicable government laws, rules and regulations and (iv) the manner required of a reasonable and prudent clinical investigator or physician; and

(b) the negligence or willful malfeasance of any Institution Indemnitee, or any other person on the Institution's property or under its control, exclusive of CRO / Sponsor employees.

10.2 Sponsor's obligations under this Section with respect to an Institution Claim are conditioned on:

(a) Prompt written notification to Sponsor of the Institution Claim so that Sponsor's ability to defend or settle the Institution Claim is not prejudiced; and

(b) Institution Indemnitees' agree that CRO/Sponsor has full control over the defense or settlement of the Institution Claim and to fully cooperate with CRO/Sponsor in the defense or settlement of the Institution Claim; provided, that CRO/Sponsor will not settle any such Institution Claim under terms that include an admission of fault or wrongdoing by any Indemnitee or which requires an Indemnitee to undertake a future course of action without that Indemnitee's written consent to such components.

10.3 Additionally, Sponsor also agrees to compensate as required by the current compensation guidelines notified vide Gazette dated 30th January 2013, G.S.R 53 (E), rule 122 DAB, 12th December 2014, G.S.R. 889 (E), and any amendment or new pronouncement notified by the Competent Authority

Notwithstanding clause 10.3 above, Sponsor shall not stand to pay any medical expenses of any human subject in the Study in the event of any adverse reaction arising out of or resulting from:

(i) A failure to adhere to the terms of this Agreement, Sponsor's written instructions relating to the Study (including the Study Protocol) and/or ICH-GCP guidelines and / or all applicable Standards. All the deviation from the Protocol need to be notified to Sponsor and CRO.

(ii) Institute shall be responsible for all the medical management expenses for the injury caused by negligent acts or omissions or intentional, reckless or willful malfeasance by Investigator, the Institution, or the Study Staff.

10.4 The Investigator, jointly and severally with Institution, will indemnify and hold the CRO, the Sponsor and their affiliated corporations, successors, directors, trustees, officers, employees and agents harmless from any and all Liabilities suffered by same as a result of a claim asserted against same, arising, or are alleged to arise, from;

(a) negligence or intentional or gross fault on the part of the Institution, Investigator, or any other Study staff, personnel involved in the performance of the Study;

(b) activities contrary to the provisions of this Agreement, including a failure to use the Study Vaccine in compliance with the Protocol or to adhere to the terms of the Protocol;

(c) the Investigator's failure to obtain IRB review and approval;

(d) the Investigator's failure to obtain proper written informed consent from the Subjects; or

(e) a breach of any applicable laws by the Institution, Investigator, or any other Study personnel involved in the performance of the Study.

In the event a claim or action is or may be asserted, an Institution Indemnitee shall have the right to select and to obtain representation by separate legal counsel. If an Institution Indemnitee exercises such right, all costs and expenses incurred by such Institution Indemnitee for such separate counsel shall be fully borne by the Institution Indemnitee; provided, that without CRO/Sponsor prior written consent, the Institution Indemnitee shall make no admission to, or any settlement or agreement with, any person or party who is in any manner related to the liabilities for which indemnification may be sought.

The obligations of this section shall survive termination of this Agreement.

Article 11 – Limitation of Liability

Except for as provided in 10.1 and 10.3, whether attributable to contract, tort, warranty, negligence, strict liability or otherwise, Sponsor/CRO's liability for any claims, damages, losses or liabilities arising out of or related to this Agreement or the Services performed hereunder shall not exceed the amounts paid by CRO to Investigator and/or Institution for Services under this Agreement.

IN NO EVENT SHALL EITHER PARTY BE LIABLE HEREUNDER FOR ANY INDIRECT, INCIDENTAL, CONSEQUENTIAL, PUNITIVE OR SPECIAL DAMAGES (INCLUDING BUT NOT LIMITED TO LOST PROFITS AND LOSS OF USE OF FACILITIES) SUSTAINED BY THE OTHER PARTY OR ANY OTHER INDIVIDUAL, THIRD PARTY OR OTHER ENTITY FOR ANY MATTER ARISING OUT OF OR PERTAINING TO THE SUBJECT MATTER OF THIS AGREEMENT. THE PARTIES EXPRESSLY ACKNOWLEDGE THAT THE FOREGOING LIMITATIONS HAVE BEEN NEGOTIATED BY THE PARTIES AND REFLECT A FAIR ALLOCATION OF RISK.

Article 12- Insurance

12.1 Sponsor Insurance: Sponsor shall at all times during the term of this Agreement obtain and maintain at its own cost and expense, clinical trial insurance policy, with respect to its activities hereunder as required by the laws of India or laws as per the country where the clinical trial shall be conducted. Such insurance shall be placed at commercially appropriate levels of insurance.

12.2 Institution Insurance: Institution shall maintain medical professional liability insurance with limits in accordance with the laws of India or laws of the country where the clinical trial shall be conducted, for each medical professional involved in the Study or require that each medical professional maintain such insurance.

12.3 Evidence of Insurance: Upon request, Sponsor and Institution respectively, will provide to each other a certificate of insurance evidencing such coverage.

Article 13 - Human Rights

Institution represents that, with respect to employment and conducting the Study under this Agreement, Institution will:

(a) not use child labor in circumstances that could cause physical or emotional impairment to the child;

(b) not use forced labor (prison, indentured, bonded or otherwise);

(c) provide a safe and healthy workplace; safe housing (if housing is provided by Institution to its employees); and access to clean water, food, and emergency healthcare in the event of accidents in the workplace;

(d) not discriminate against employees on any grounds (including race, religion, disability or gender);

(e) not use corporal punishment or cruel or abusive disciplinary practices;

(f) pay at least the minimum wage and provide any legally mandated benefits;

(g) comply with laws on working hours and employment rights;

(h) respect employees' right to join and form independent trade unions;

(i) encourage subcontractors under this Agreement to comply with these standards;

(j) maintain a complaints process to address any breach of these standards.

Article 14 - Anti-Bribery and Anti-Corruption

14.1 The Institution and Investigator represent and warrant that they shall not, directly or indirectly, take any action which would cause them, or their employees and sub-investigators to be in violation of any anticorruption or anti-bribery law or regulations applicable to the Investigator ("Anticorruption Laws")

14.2 The Institution and its affiliates has established and continues to maintain reasonable internal controls and procedures intended to ensure compliance with the Anticorruption Laws including controls and procedures designed to ensure that the Investigator or its employees or Sub-investigators do not make payments in violation of the Anticorruption Laws .

Article 15-EQUIPMENT

With respect to any equipment ("Loaned Equipment") provided to Institution by CRO or Sponsor exclusively to perform the Services pursuant to this Agreement Institution agrees that no title to nor any proprietary rights related to the Loaned Equipment is transferred to Institution, that the Loaned Equipment will be used only for the Study and only as described in the Protocol and any other written directions provided by CRO/Sponsor, that the Loaned Equipment will not be transferred by Institution to the possession of any third party without the written consent of CRO/Sponsor, and that, at the completion of the Study or at CRO's/Sponsor's request, Institution will return the Loaned Equipment and all related training materials and documentation to CRO /Sponsor.

(a) Investigator and Study Staff will attend scheduled training to use the Loaned Equipment following reasonable advance notice of scheduling. The Loaned Equipment will be kept in a safe and secure location and Institution will be responsible for any theft, damage, or loss to the Loaned Equipment other than normal wear and tear. Institution will be responsible for arranging and paying for any required electricity supply, backup power supply, internet connection, telephone line, and/or facsimile line as necessary to use the Loaned Equipment. Institution shall also be responsible for maintenance cost and annual calibration cost which is required to keep the loaned equipment in a working condition. If the Institution fails to return the Loaned Equipment within the timeframe specified by CRO/Sponsor, the Institution will be responsible for reimbursing CRO/Sponsor for any penalties, late fees, and/or replacement costs.

(b) Institution acknowledges that the Loaned Equipment may involve valuable patent, trademark, trade name, trade secret, and other proprietary rights of the Loaned Equipment manufacturer. Institution will not violate and will take appropriate steps and precautions to ensure that those with access to the Loaned Equipment do not violate these proprietary rights, including, without limitation:
   (i) not removing any label or notice of Loaned Equipment ownership or other rights,
   (ii) not making any copy, reproduction, changes, modification, or alteration of any software or firmware included with the Loaned Equipment or
   (iii) not disassembling or decompiling any such software or firmware or otherwise attempting to discover any source code or trade secret related to such software or firmware.

Article 16– Force Majeure and Delays

In the event either Party shall be delayed or hindered or prevented from the performance of any act required hereunder by reasons of strike, lockouts, labor troubles, failure of power, restrictive government or judicial orders, or decrees, riots, insurrection, war, Acts of God, inclement weather or other similar reason or cause beyond that Party's control, then performance of such act (except for the payment of money owed) shall be excused for the period of such delay; provided the Party provides notice of the existence of and reason for

such nonperformance or delay in specific detail. In the event of a delay for a consecutive of 90 days, the non-affected Party will have right to terminate this Agreement by serving written notice to the other Party.

Article 17 – Applicable Law

This Agreement shall be construed, governed, interpreted, and applied in accordance with the laws of India and dispute under this Agreement and shall be subjected to the exclusive jurisdiction of courts of the City of Pune without regard to its conflict of laws provisions.

Article 18 – Record keeping and Regulatory Inspection:

18.1 Throughout the term of this Agreement, Institution/ Investigator shall maintain and Investigator shall require Study Staff to maintain the complete and accurate books and records (including scientific, clinical and financial records) pertaining to all work performed and expenses incurred hereunder in connection with the Study and preserve them as per the directions of Sponsor/CRO for a minimum of three (3) years from the date of completion of the Study or termination of this Agreement, whichever is earlier, or such longer period as required by the Protocol and the a pplicable laws and requirements. Archival of these records will be with Institution. Sponsor and its representatives shall have access to these records during the period of 3 years stated above. If required, Institution shall provide the copies of these records to Sponsor.

18.1.1 Sponsor or its designee shall have the right upon prior written notice to have their representatives review and copy all books and records of Investigator, the t rial Site and the Study Staff relating to the Study, including without limitation books and records relating to any funds expended hereunder in connection with the Study. In each case access to such books and records shall occur during regular business hours (or such other agreed time) following reasonable notice to Institution whose records are sought for review.

18.1.2 Sponsor or its designee upon reasonable advance notice, and during regular business hours (or such other agreed time), shall have the right to access the t rial s ite to carry out Sponsor's rights and obligations hereunder and to inspect such trial site's facilities used in the conduct of the Study. The Parties agree to maintain the confidentiality of any subject-identifiable medical records should such information be made accessible under this Article 18.1.2.

18.2 The Investigator/Institution shall notify the Sponsor/CRO immediately by telephone or facsimile in case they receive any communication from Food and drug Administration or any other governmental or regulatory body with regard to Inspection/Audit of the Institution's facility relating to the Study during the term of this Agreement and shall allow CRO/Sponsor to be present at the inspection or participate in any response to the action, and provide to Sponsor/CRO copies of all materials correspondence, statements forms and records which the site receives, obtains or generate pursuant to any such Inspection.

Article 19 – Electronic Record and Electronic Signature

Investigator/ Institution acknowledges that Electronic Records (defined hereinafter), Electronic Signatures (defined hereinafter), and handwritten signatures executed to

Electronic Records, utilized for capturing study related data and for performing services under this Agreement, will be trustworthy, reliable, and are equivalent to paper records and handwritten signatures executed on paper.

As defined in 21 CFR Part 11 "Electronic record" shall mean any combination of text, graphics, data, audio, pictorial, or other information representation in digital form that is created, modified, maintained, archived, retrieved, or distributed by a computer system. "Electronic signature" shall mean a computer data compilation of any symbol or series of symbols executed, adopted, or authorized by an individual to be the legally binding equivalent of the individual's handwritten signature.

Investigator/ Institution shall remain accountable and responsible for actions initiated under its Electronic Signature.

Article 20 – Representations and warranties

The Parties each represent and warrant that the execution, delivery and performance of this Agreement does not conflict with, violate or breach any agreement to which it is a party and no Party will enter into any, agreements, assignments or encumbrances binding on it or its respective Affiliates inconsistent with the provisions of this Agreement.

Article 21 – Assignment

No Party may assign this Agreement or any interest hereunder without the prior written consent of other Party; provided, however, that Sponsor may assign this Agreement to any corporation with which it may merge or consolidate or to which it may sell all or substantially all of its assets, without obtaining the prior written consent of Institution. In the event of any assignment by any Party permitted under this Agreement, such assignment will be effective only if (i) the assignee has the requisite power, authority and capability to fulfill all obligations of the assignor Party under this Agreement and (ii) such assignee agrees in writing to other Party, in a form reasonably acceptable to the other Party, to fulfill all obligations and liabilities of the assignor Party under this Agreement. Each Party will promptly notify other Party of any such assignment. To the extent permitted above, this Agreement shall be binding upon and inure to the benefit of the Parties and their permitted successors and assigns.

Article 22-Severability

If any provision(s) of this Agreement should be illegal or unenforceable in any respect, the legality and enforceability of the remaining provisions of this Agreement shall not be affected. In the event that the terms and conditions of this Agreement are materially altered as a result of this Article 21, the Parties will renegotiate the terms and conditions of this Agreement to resolve any inequities, adhering as closely as possible to the original intent of the Parties.

Article 23-Waiver; Modification of Agreement

No waiver, amendment, or modification of any of the terms of this Agreement shall be valid unless in writing and signed by authorized representatives of all Parties. Failure by a Party to enforce any rights under this Agreement shall not be construed as a waiver of such

rights, nor shall a waiver by a Party in one or more instances be construed as constituting a continuing waiver or as a waiver in other instances.

Article 24 – Miscellaneous

24.1 Institution will obtain written consent from staff involved in the Study that allows Sponsor, Sponsor affiliates, and third party suppliers working for Sponsor or its affiliates to hold and process personal data provided with respect to Study Staff anywhere in the world, both manually and electronically, for all purposes relating to the performance of this Agreement, for the purposes of administering and managing the business activities of any company in the SPONSOR group of companies, and for compliance with applicable procedures, laws, and regulations. Investigator consents to the use, storage and processing of his/her personal data as set out above.

24.2 This Agreement, including the annexed Schedules and Appendices , sets forth the entire understanding between the Parties herein, and there are no other understandings or promises, written or verbal, not set forth herein, relating to the subject matter hereof and supersedes all other prior agreements, discussions whether oral or in writing. This Agreement may not be changed or supplemented, except by a writing executed by all Parties.

24.3 The Institution and Investigator understand and agree that SPONSOR is a third party beneficiary to this Agreement and, in this capacity, can enforce any terms as if it were a Party hereto.

24.4 If any provision(s) of this Agreement should be illegal or unenforceable in any respect, the legality and enforceability of the remaining provisions of this Agreement shall not be affected.

24.5 Failure by either Party to enforce any rights under this Agreement shall not be construed as a waiver of such rights nor shall a waiver by either Party in one or more instances be construed as constituting a continuing waiver or as a waiver in other instances.

24.6 All legal notices to be given by either Party to the other shall be made in writing by hand delivery or by registered or certified mail, return receipt requested or by other method reasonably capable of proof of receipt thereof and addressed to the Parties at their respective addresses first set forth above to the attention of:

If to the Institution, to:	Name: Dr. Rajendra Bohra Designation: Dean Address: MGM Medical College and hospital N-6 Cidco Aurangabad-431003, MH, India Phone No.: 9225304660 Email: rajbohra@msn.com
If to the Investigator, to:	Name: Dr. Tayade Deepak Narayan Designation: Assistant Professor of Community Medicine

Address: MGM Medical College and Hospital
N-6 Cidco, Aurangabad431003, MH, India
Phone No.: 7776900089 / 8788416747
Email: drtayadepsm@gmail.com

If to the CRO, to: DiagnoSearch Life Sciences Pvt. Ltd
702, Dosti Pinnacle, Plot No. E-7, Road No. 22, Wagle Industrial Estate, Thane- 400604, Maharashtra, India

If to the Sponsor, to: Serum Institute of India Private Limited 212/2 Hadapsar, Pune 411 028, India
Facsimile: 91-20-26993921

With a copy to:
Name: Makarand Karkare, General Counsel
Serum Institute of India Private Limited,
Sarosh Bhavan, 16/B-1, Dr. Ambedkar Road,
Pune 411001
Phone: 91-20-26100341

Or to such other address and any Party may designate in writing from time to time to the other. Any notice shall be effective as of its date of receipt.

24.7 The Parties hereby agree that, considering the current scenario of Novel COIVD 19 pandemic and non availability of stamp papers, the Agreement shall be executed on the plain paper and subsequently upon availability the stamp paper signed / initialed by all the Parties shall be appended to the Agreement which shall form an integral part of the Agreement.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed in multiple counterparts by their duly authorized representatives.

FOR Principal Investigator:

By: Tayade Date 4th SEP 2020
Name: Dr. Tayade Deepak Narayan
Title: Principal Investigator

FOR AND ON BEHALF OF:
MGM Medical College and Hospital

By: Date 04/9/2020
Name: Dr. Rajendra Bohra
Title: Dean

FOR AND ON BEHALF OF:
DiagnoSearch Life Sciences Pvt. Ltd.

By: Date 12th Aug 2020
Name: Gajendra Sharma
Title: Controller Finance and Accounts

FOR AND ON BEHALF OF:
Serum Institute of India Pvt. Ltd.

By: Date 12/08/2020
Name: Dr. Hitt Sharma
Title: Additional Medical Director

SCHEDULE A
PROTOCOL NUMBER: SII-wHEXA/IN-02
CLINICAL TRIAL PROTOCOL SYNOPSIS

STUDY TITLE	An Open label, Randomized, Active-controlled, Multi-centric Phase-II/III Study in Indian Toddlers and Infants to Assess the Immunogenicity and Safety of SIIPL HEXASIIL™ (DTwP-HepB-IPV-Hib) Vaccine in Comparison with SIIPL Pentavac (DTwP-HepB-Hib) + Poliovac (IPV) Vaccines, Administered as Separate Injections.
SPONSOR	Serum Institute of India Pvt. Ltd.
CLINICAL RESEARCH ORGANIZATION (CRO)	DiagnoSearch Life Sciences Pvt. Ltd.
PROTOCOL ID	SII-wHEXA/IN-02
CLINICAL DEVELOPMENT PHASE	Phase II/ III
INDICATION	Active immunization against Diphtheria, Tetanus, Pertussis, Hepatitis B, Poliovirus type 1, 2 & 3 and *Haemophilus Influenzae* type b. Recommended schedule for primary immunization in infants is three doses with an interval of 4 weeks between doses, starting at 6 weeks of age. A booster dose is recommended in the second year of life.
NUMBER OF SITES	The study will be conducted at approximately 8 sites across India.
STUDY POPULATION	
PART I	222 healthy male and female toddlers aged 12-24 months who have completed 3 doses of primary immunization series at least 6 months prior to enrolment
PART II	1260 healthy male and female infants aged 6-8 weeks at enrolment
DURATION OF TODDLER/INFANT PARTICIPATION	
PART I	The maximum duration of participation of each toddler is approximately 42 days
PART II	The study duration is as follows: • Primary vaccination period (3-dose primary vaccination series) ~2 months • Follow-up post completion of 3-dose primary vaccination series ~1

	month • Post completion of 1-month follow-up period after primary vaccination series, the subjects will be further followed up for booster dose which may occur between 12-24 months of age. Post-booster dose, the subjects will be followed up for 1 month.
EXPECTED DURATION OF STUDY	
PART I	Approximately 3 months
PART II	Primary Vaccination Series: Approximately 12 months Total duration including Primary Vaccination Series and Booster Dosing Period: Approximately 32 months
STUDY RATIONALE	Vaccination of infants against diphtheria, tetanus, pertussis, hepatitis B polio and *Haemophilus influenzae* type b has been recommended by the World Health Organization (WHO) for several decades and is well established in most countries around the world. Immunization is simplified using combined vaccine presentations. Inactivated polio vaccine (IPV)-containing hexavalent vaccine represents one potential approach to global IPV access. A hexavalent combination vaccine containing diphtheria, tetanus, pertussis, hepatitis B, the three IPV antigens and *Haemophilus influenzae* type b could further simplify complex pediatric routine immunization schedules, improve compliance, and reduce delivery costs. Hexavalent vaccines are considered logically and scientifically sound drivers of such a strategy and are touted to be the ultimate combination vaccine for routine immunization. Serum Institute of India Pvt. Ltd. (SIIPL) has developed a fully liquid hexavalent vaccine (HEXASIIL™) containing diphtheria toxoid (D), tetanus toxoid (T), whole cell pertussis (wP), hepatitis B antigen (Hep B), inactivated poliovirus type 1, 2, 3 (IPV) and *Haemophilus influenzae* type b (Hib) conjugate (adsorbed). The vaccine can be a part of primary and booster vaccination of infants from 6 weeks of age against diphtheria, tetanus, pertussis, hepatitis B, poliomyelitis and *Haemophilus influenzae* type b. The preclinical animal toxicity studies and Phase I study in healthy toddlers, for this vaccine are successfully completed. The objective of the current study is to evaluate the safety and immunogenicity of HEXASIIL™ when administered as a booster dose

<table>
<tr><td></td><td>in toddlers aged 12-24 months and as a 3-dose primary vaccination series in infants aged 6-8 weeks, compared to already licensed SIIPL Pentavac + Poliovac vaccines.</td></tr>
<tr><td>INVESTIGATIONAL VACCINE</td><td>HEXASIIL™ (DTwP-HepB-IPV-Hib)
HEXASIIL™ vaccine is available as a fully liquid vaccine to be administered intramuscularly as a 0.5 mL dose. Each dose of 0.5 mL of HEXASIIL™ vaccine contains:
<table>
<tr><td>Ingredient</td><td colspan="2"></td></tr>
<tr><td colspan="3">Active Ingredients</td></tr>
<tr><td>Diphtheria Toxoid</td><td colspan="2">≥ 30 IU</td></tr>
<tr><td>Tetanus Toxoid</td><td colspan="2">≥ 40 IU</td></tr>
<tr><td>B. pertussis (whole cell)</td><td colspan="2">≥ 4 IU</td></tr>
<tr><td>HBsAg (rDNA)</td><td colspan="2">≥ 10 mcg</td></tr>
<tr><td rowspan="3">Inactivated Polio Vaccine
(Salk strains grown on vero cells)</td><td>Type- 1</td><td>40 DU</td></tr>
<tr><td>Type- 2</td><td>8 DU</td></tr>
<tr><td>Type- 3</td><td>32 DU</td></tr>
<tr><td>Hib conjugate (PRP-TT)</td><td colspan="2">10 mcg</td></tr>
<tr><td colspan="3">Inactive Ingredients</td></tr>
<tr><td>Aluminium content Al (3^{+}) (as Aluminium Phosphate gel)</td><td colspan="2">0.28 mg</td></tr>
<tr><td>2-Phenoxyethanol</td><td colspan="2">0.5%</td></tr>
</table></td></tr>
<tr><td>COMPARATOR VACCINE</td><td>SIIPL PENTAVAC (DTwP-HepB-Hib) + POLIOVAC (IPV) (hereafter referred to as SIIPL Pentavac + Poliovac in the document).
SIIPL PENTAVAC vaccine is available as a liquid vaccine to be administered intramuscularly as 0.5 mL dose. Each dose of 0.5 mL Pentavac vaccine contains:
<table>
<tr><td>Ingredient</td><td></td></tr>
<tr><td colspan="2">Active Ingredients</td></tr>
<tr><td>Diphtheria Toxoid</td><td>≤ 25 Lf (≥ 30 IU)</td></tr>
<tr><td>Tetanus Toxoid</td><td>≥ 2.5 Lf (≥ 40 IU)</td></tr>
<tr><td>B. pertussis (whole cell)</td><td>≤ 16 OU (≥ 4 IU)</td></tr>
<tr><td>HBsAg (rDNA)</td><td>≥ 10 mcg</td></tr>
<tr><td>Purified capsular Hib Polysaccharide (PRP) conjugated to Tetanus Toxoid (carrier protein)</td><td>10 mcg</td></tr>
<tr><td colspan="2">Inactive Ingredients</td></tr>
</table></td></tr>
</table>

	Adsorbed on Aluminium Phosphate, Al $^{+++}$ ≤ 1.25 mg Thiomersal 0.005% SIIPL POLIOVAC vaccine is available as a liquid vaccine to be administered intramuscularly as 0.5 mL dose. Each dose of 0.5 mL Poliovac vaccine contains: **Ingredient** **Active Ingredients** Poliomyelitis virus Type 1, Mahoney strain* 40 D antigen units Poliomyelitis virus Type 2, MEF-I strain* 8 D antigen units Poliomyelitis virus Type 3, Saukett strain* 32 D antigen units **Inactive Ingredients** 2-phenoxyethanol 2.5 mg Formaldehyde 12.5 mcg * Cultivated on Vero cells.
PRIMARY OBJECTIVE	
PART I	• To assess and compare the safety and reactogenicity of HEXASIIL™ vaccine with the comparator vaccine *viz*., SIIPL Pentavac + Poliovac when administered as a booster dose in toddlers aged 12-24 months.
PART II	• To demonstrate non-inferiority (NI) of HEXASIIL™ vaccine in comparison with SIIPL Pentavac + Poliovac in terms of seroprotection rate for diphtheria, tetanus, hepatitis B, and *Haemophilus Influenzae* type b and seroconversion rate for pertussis and polio, 28 days post completion of a 3-dose primary vaccination series in infants aged 6-8 weeks.
SECONDARY OBJECTIVE(S)	
PART I	• To assess and compare the immunogenicity of HEXASIIL™ vaccine with the comparator vaccine *viz*., SIIPL Pentavac + Poliovac when administered as a booster dose in toddlers aged 12-24 months.
PART II	• To assess and compare the safety and reactogenicity of HEXASIIL™ vaccine with the comparator vaccine *viz*., SIIPL Pentavac + Poliovac in infants aged 6-8 weeks. • To assess and compare the immune responses to HEXASIIL™ vaccine with the comparator vaccine *viz*., SIIPL Pentavac +

	Poliovac in terms of geometric mean concentration or geometric mean titre (GMC/GMT), 28 days post completion of a 3-dose primary vaccination series in infants aged 6-8 weeks. • To demonstrate equivalence of immunogenicity of 3 lots of HEXASIIL™ vaccine post completion of a 3-dose primary vaccination series in infants aged 6-8 weeks.
EXPLORATORY OBJECTIVE	
PART II	• To assess the post-booster dose safety of HEXASIIL™ and SIIPL Pentavac + Poliovac vaccine at 12-24 months, in subjects who have received three doses of primary vaccination series in this study. • To assess and compare the pre- and post-booster immunogenicity of HEXASIIL™ vaccine with the comparator vaccine *viz*., SIIPL Pentavac + Poliovac at 12-24 months, in subjects who have received three doses of primary vaccination series in this study.
PRIMARY ENDPOINTS	
PART I	• Occurrence, severity, and relationship of local and systemic solicited adverse events (AE) occurring up to 7 days following vaccination. • Occurrence, severity and relationship of unsolicited AEs occurring up to 28 days following vaccination. • Occurrence, severity and relationship of serious adverse events (SAE) occurring up to 28 days following vaccination.
PART II	• Percentage of infants achieving seroprotection for diphtheria, tetanus, hepatitis B, *Haemophilus influenzae* type b and seroconversion for poliovirus types 1 & 3 and pertussis, 28 days post completion of a 3-dose primary vaccination series.
SECONDARY ENDPOINTS	
PART I	• Percentage of toddlers achieving seroprotection for diphtheria, tetanus, hepatitis B, *Haemophilus influenzae* type b and seroconversion for poliovirus types 1 & 3 and pertussis, 28 days following vaccination. • Geometric mean concentrations/titres (GMCs/GMTs) for anti-diphtheria, anti-tetanus, anti-pertussis, anti-HBsAg (Hepatitis B

	surface antigen), anti-PRP (polyribosyl ribitol phosphate) and anti-polio types 1 & 3 antibodies, 28 days following vaccination.
PART II	**Safety Endpoints** • Occurrence, severity, and relationship of local and systemic solicited AEs occurring up to 7 days following each of the three vaccine doses. • Occurrence, severity and relationship of unsolicited AEs up to 28 days post completion of a 3-dose primary vaccination series. • Occurrence, severity and relationship of SAEs up to 28 days post completion of a 3-dose primary vaccination series. **Immunogenicity Endpoints** • Geometric mean concentrations/titres (GMCs/GMTs) for anti-diphtheria, anti-tetanus, anti-pertussis, anti-HBsAg, anti-PRP and anti-polio types 1 & 3 antibodies, 28 days post completion of the 3-dose primary vaccination series in infants. • Geometric mean concentrations/titres (GMCs/GMTs) for anti-diphtheria, anti-tetanus, anti-pertussis, anti-HBsAg, anti-PRP and anti-polio types 1 & 3 antibodies, among 3 lots of HEXASIIL™ vaccine, 28 days post completion of the 3-dose primary vaccination series in infants.
EXPLORATORY ENDPOINTS	
PART II	**Safety Endpoints** • Occurrence, severity, and relationship of local and systemic solicited AEs reported up to 7 days following the booster vaccination. • Occurrence, severity and relationship of unsolicited AEs occurring up to 28 days following the booster vaccination. • Occurrence, severity and relationship of SAEs occurring up to 28 days following the booster vaccination. **Immunogenicity Endpoints** Pre- and post-booster immunogenicity of HEXASIIL™ vaccine and comparator vaccine *viz*., SIIPL Pentavac + Poliovac in subjects who have completed the 3-dose primary vaccination series and receive a booster dose at 12-24 months of age as part of the study.

	• Percentage of toddlers achieving seroprotection for diphtheria, tetanus, hepatitis B, *Haemophilus influenzae* type b and seroconversion for poliovirus types 1 & 3 and pertussis, prior to booster dose and 28 days after a booster dose. • Geometric mean concentrations/titres (GMCs/GMTs) for anti-diphtheria, anti-tetanus, anti-pertussis, anti-HBsAg, anti-PRP and anti-polio types 1 & 3 antibodies, prior to booster dose and 28 days after a booster dose.
STUDY DESIGN This is an open label, randomized, active-controlled, multi-centric study to be conducted in two parts in healthy Indian toddlers and infants to assess the immunogenicity and safety of HEXASIIL™ vaccine in comparison with the licensed and commercially available SIIPL Pentavac + Poliovac vaccines.	
PART I	In Part I of the study, 222 toddlers, aged 12-24 months (365 to 730 days, both inclusive), who have completed primary immunization series at least 6 months prior to enrolment, will be randomized in a 1:1 ratio, to receive a booster dose of HEXASIIL™ vaccine or the comparator *viz*., SIIPL Pentavac + Poliovac. Toddlers will be followed up for 28 days post-vaccination for safety and immunogenicity. An external Data and Safety Monitoring Board (DSMB) comprising of independent Pediatrician, Physician, Pharmacologist and Biostatistician will be appointed to assess any safety concerns. The DSMB will review safety data of all participating toddlers post completion of Visit 2 (7 days following vaccination) and Visit 3 (28 days following vaccination). Part II of the study in infants, will be initiated only after obtaining recommendation of DSMB on the overall safety data of Part I of the study. The DSMB recommendation letter will be notified to DCGI for information only.
PART II	In Part II of the study, 1260 infants aged 6-8 weeks (42 to 56 days, both days inclusive) will be randomized in a 2:1 ratio (840:420), to receive a 3-dose primary vaccination series followed by a booster dose of HEXASIIL™ or the comparator *viz*., SIIPL Pentavac + Poliovac. In the HEXASIIL™ vaccine group, infants will receive the vaccine from one of the three different lots (n= 280 each). Among the 3 lots, the vaccine presentation will be single dose vial in the first lot, single dose pre-filled syringe (PFS) in the second lot and multi-dose vial in the third

	lot.
METHODOLOGY	
PART I	After signing an informed consent and post-confirmation of study eligibility status, toddlers will be randomized, in a 1:1 ratio, to receive either study vaccines. All toddlers randomized to the HEXASIIL™ vaccine group will receive a booster dose of 0.5 mL hexavalent vaccine administered intramuscularly in the upper anterolateral aspect of the thigh. Toddlers randomized to SIIPL Pentavac + Poliovac group will receive 0.5 mL Pentavac and Poliovac each, administered as two intramuscular (IM) injections at separate sites (upper anterolateral aspect of right and left thighs). Following vaccination, all toddlers will be observed at the site for minimum 30 (+15) minutes for any Immediate Adverse Events (IAE). Solicited AEs will be actively collected for 7 days post vaccination. Unsolicited AEs and SAEs will be collected throughout the study from the time of signing informed consent till 28 days post vaccination. All the SAEs will be reported to the regulatory authority as per applicable regulatory guidelines based on the knowledge of the events. Complete physical examination, vital sign and prior/concomitant medications assessments will be performed at Visit 1, Visit 2 and Visit 3. Additional targeted physical examination (if indicated) and vital sign measurements will be done 30 (+15) minutes after vaccination. Blood samples for immunogenicity assessment will be obtained from all participating toddlers at Visit 1 and at Visit 3.
PART II	**Primary Vaccination Series and Follow-up** Post signing informed consent and post-confirmation of study eligibility status, all infants will be randomized to receive a 3-dose primary vaccination series at 6, 10 and 14 weeks of age*. Infants in the HEXASIIL™ vaccine group will receive 0.5 mL hexavalent vaccine administered intramuscularly in the upper anterolateral aspect of the thigh while infants randomized to SIIPL Pentavac + Poliovac group will receive 0.5 mL Pentavac and 0.5 mL of Poliovac each, administered as two separate IM injections at separate sites (upper anterolateral aspect of right and left thighs). Following each vaccination, all infants will be observed at the site for minimum 30 (+15) minutes for any IAEs. Active follow up for solicited AEs will be conducted over the 7-day period after

	each vaccination. Unsolicited AE/SAEs will be collected from signing of informed consent till Visit 7. All the SAEs will be reported to the regulatory authority as per applicable regulatory guidelines based on the knowledge of the events. Complete physical examination, vital sign and prior/concomitant medication assessment will be performed at Visit 1 and at Visit 3, Visit 5 and Visit 7. Additional targeted physical examination (if indicated) and vital sign measurements will also be done 30 (+15) minutes after each vaccination and additionally during any other clinic visits. Targeted physical examination and vital sign evaluation will also be performed at Visits 2, 4 and 6 whenever it is a clinic visit. Blood samples for immunogenicity assessment will be obtained from all participating infants at Visit 1 and at Visit 7. The safety and immunogenicity data of Part I and Part II (up to 28 days post completion of a 3-dose primary vaccination series) shall be submitted together in the clinical study report (CSR) to DCGI for licensure. *Due to the current COVID-19 situation, subjects may not be able to visit the site and receive the vaccines as per scheduled timepoints. For subjects who are unable to visit the site at scheduled timepoints, all attempts should be made to administer all 3-doses of the primary vaccination series before the subject completes 6 months of age (≤6 months of age) ensuring a minimum gap of at least 4 weeks between any two vaccines doses in the primary series. This is in line with WHO recommendation for interrupted and delayed vaccination which states that a primary series of 3 doses of DTP-containing vaccine is recommended, with the first dose administered as early as 6 weeks of age and subsequent doses should be given with an interval of at least 4 weeks between doses. The third dose of the primary series should be completed by 6 months of age if possible [Error! Reference source not found.]. **Pre-booster Follow-up Assessment** Subjects who complete the primary vaccination series will be followed up further for booster dose. After Visit 7 (i.e. 28 days following completion of primary vaccination series) subjects will continue to be followed up for safety every 3 months starting from the age of 6 months (i.e. at 6, 9, 12, 15, 18, and 21 months of age) until they receive the

	booster dose. All such pre-booster safety follow-up visits will be considered as additional follow-up visits. For subjects whose primary vaccine is delayed because of COVID situation, the follow-up visits will be adjusted accordingly. Considering that the maximum age at which the third dose of primary series may be administered is 6 months of age, the pre-booster follow-up assessment for such subjects will not be applicable at 6th month. However, the pre-booster follow-up visits from 9th month should be followed as per schedule. Visit 8 is considered as the visit when booster dose will be administered and may occur anytime between 12-24 months (365 to 730 days, both inclusive) of age. The subject will receive a booster dose of HEXASIIL™ vaccine or the comparator *viz*., SIIPL Pentavac + Poliovac vaccine at Visit 8. During pre-booster safety follow-up period, all the reported unsolicited AE/SAE data will be collected and all SAEs will be reported to the regulatory authority based on knowledge of the events as per applicable regulatory guidelines. Targeted physical examination and vital sign evaluation will also be performed during pre-booster follow-up visits, whenever it is a clinic visit. Blood samples for immunogenicity will be collected just prior to booster administration at Visit 8. **Booster Dose Administration and Follow-up** Subjects will be called for booster vaccination between 12-24 months of age (Visit 8). After re-assessment of eligibility, subject will receive booster dose of same vaccine (HEXASIIL™ or SIIPL Pentavac + Poliovac vaccine) which they had received during primary vaccination series. Following vaccination, all subjects will be observed at the site for minimum 30 (+15) minutes for any IAEs. Solicited AEs will be actively collected for 7 days post vaccination. Unsolicited AEs/SAEs will be collected till Visit 10 i.e. 28 days post vaccination. All the SAEs will be reported to the regulatory authority as per applicable guidelines based on the knowledge of the events. Complete physical examination and vital sign evaluations will be performed at Visits 8 and 10. Additional targeted physical examination (if indicated) and vital sign measurements will be done 30 (+15) minutes after booster vaccination. Blood samples will also be collected from all subjects at Visit 10 i.e. 28

	days following the booster administration to assess the post-booster immunogenicity.
STUDY EVALUATIONS (PART I/PART II)	
IMMUNOGENICITY	Anti-diphtheria, anti-tetanus, anti-pertussis, anti-HBsAg and anti-PRP antibody titres will be measured by Enzyme Linked Immunosorbent Assays (ELISA). Anti-polio type 1 & 3 antibody titres will be measured by Neutralization assay. In addition, anti-pertussis toxoid (anti-PT) will also be measured by ELISA. Below are the thresholds for seroprotection/seroconversion for immunogenicity assessment in the study: Seroprotection for diphtheria, tetanus, hepatitis B and *Haemophilus influenzae* type b are defined as: • Anti-diphtheria antibody ≥ 0.1 IU/mL • Anti-tetanus antibody ≥ 0.1 IU/mL • Anti-HBsAg antibody ≥ 10 mIU/mL • Anti-PRP antibody ≥ 0.15 µg/mL Seroconversion for Polio is defined as: • Anti-poliovirus Type1 antibodies ≥ 8 (1/dilution) • Anti-poliovirus Type 3 antibodies ≥ 8 (1/dilution) Seroconversion for Pertussis is defined as: • In subjects with no quantifiable antibody - below the lower limit of quantitation (LLOQ) prior to vaccination, seroconversion is defined as achieving a quantifiable antibody level post-vaccination. • In subjects with quantifiable antibody prior to vaccination, seroconversion is defined by a 4-fold-increase in antibody titres from pre- to post-vaccination.
SAFETY	Subjects will be evaluated for IAEs for minimum 30 (+15) minutes following each vaccination, solicited AEs for 7-days post each vaccination, unsolicited AEs and SAEs during the defined time-periods. The solicited local AEs include injection site pain/tenderness, injection site erythema/redness and injection site swelling. The solicited systemic AEs include fever (defined as a body temperature ≥ 38°C/100.4°F as

	measured by axillary route), irritability, abnormal crying, drowsiness, vomiting and loss of appetite. The parent(s) will be given a digital thermometer to record axillary temperature, a measuring scale to record injection site erythema/redness & swelling and a subject diary card to record details of solicited and unsolicited AEs and to capture medication details. The parents will bring the filled subject diary cards to the site at the scheduled visits. The study Investigators will review the subject diary cards for its correctness and completeness and the clinical staff will be responsible for continuous close safety monitoring of all study subjects. All solicited and unsolicited AEs will be graded as per the grading scale detailed in Section 6.3.2.3 of the protocol and as per the clinical judgment of the Investigator considering information provided by subjects' parent(s). SAEs irrespective of the causality and expectedness will be reported to the DCGI, as per the regulatory requirements.
STUDY ELIGIBILITY CRITERIA	
PART I	**Inclusion Criteria** 1. Male or female toddlers aged between 12-24 months at the time of vaccination. 2. Toddlers with a good health, as determined by the medical history, physical examination and clinical judgment of the Investigator. 3. Toddlers who have completed primary immunization series against diphtheria, tetanus, pertussis, hepatitis B, poliomyelitis [oral polio vaccine (OPV) and/or IPV] and *Haemophilus Influenzae* type b at least 6 months prior to enrolment and have not received the booster dose for the above-mentioned vaccines scheduled at 12-24 months of age. 4. Informed consent form (ICF) signed by at least one parent. 5. The weight-for-length z-score for the toddler is ≥ -2 Standard Deviation (SD) at the time of enrolment. **6.** Willingness of subjects' parent to comply with the requirements of the protocol. **Exclusion Criteria** 1. History of diphtheria/tetanus/pertussis/hepatitis B/*Haemophilus*

	Influenzae type b/poliomyelitis infection(s) (confirmed either clinically, serologically or microbiologically). 2. Fever ≥ 38°C/100.4°F and/or any evidence of acute illness and/or receipt of antibiotics in the past 3 days. 3. Administration of any vaccine (except OPV during government immunization campaign) in the 4 weeks preceding the trial vaccination or planned receipt of any non-study vaccine during the study period. 4. History of major congenital defects or illness that require medical therapy, as determined by medical history or clinical assessment. 5. History of any clinically significant chronic disease that in the opinion of the Investigator, might interfere with the evaluation of the study objectives. 6. History of anaphylaxis, or any serious vaccine reaction, or hypersensitivity/allergy to any vaccine or components of study vaccine. 7. Presence of evolving or changing neurological disorder or toddler with a history of seizures and/or encephalopathy. 8. Toddlers with known or suspected impairment of the immune function, or those receiving immunosuppressive therapy such as anti-cancer chemotherapy or radiation therapy or received immunosuppressive therapy within 3 months prior to study entry (For corticosteroids, this will mean prednisone ≥ 0.5 mg/kg/day or equivalent for more than 2 consecutive weeks. Inhaled or topical steroids are allowed). 9. Known thrombocytopenia or a bleeding disorder. 10. Known personal or maternal history of Human Immunodeficiency Virus (HIV), Hepatitis B or Hepatitis C seropositivity. 11. Planned surgery during the study. 12. Receipt of blood or blood-derived products or immunoglobulins in the past 3 months, current or planned administration during the study period. 13. Participation in another clinical trial 4 weeks preceding the trial enrolment or planned participation during the present trial period in another clinical trial. 14. Toddlers whose families are planning to leave the area of the study

	site before the end of the study period.
PART II	**Inclusion Criteria** 1. Male or female infants aged 6-8 weeks (42 to 56 days, both days inclusive) at the time of first vaccination. 2. Infants with a good health, as determined by the medical history, physical examination and clinical judgment of the Investigator. 3. Infants who have received the birth doses of OPV and BCG at least 4 weeks before the first trial vaccination. 4. Informed consent form signed by at least one parent. 5. Infants born at full term pregnancy (≥ 37 weeks). 6. Infants with weight-for-length z-score ≥ -2 SD at the time of enrolment. 7. Willingness of subjects' parent to comply with the requirements of the protocol. **Exclusion Criteria** 1. History of diphtheria/tetanus/pertussis/hepatitis B/*Haemophilus Influenzae* type b/poliomyelitis infection(s) (confirmed either clinically, serologically or microbiologically). 2. Fever ≥ 38°C/100.4°F and/or any evidence of acute illness and/or receipt of antibiotics in the past 3 days. 3. Previous vaccination or planned receipt of any vaccine against diphtheria, tetanus, pertussis, hepatitis B (except birth dose), poliomyelitis (except OPV) or *Haemophilus Influenzae* type b infection apart from trial vaccines during the study period. 4. Administration of any vaccine (except OPV during government immunization campaign) in the 4 weeks preceding the first trial vaccination. 5. History of major congenital defects or illness that require medical therapy, as determined by medical history or clinical assessment. 6. History of any clinically significant chronic disease that in the opinion of the Investigator, might interfere with the evaluation of the study objectives. 7. History of anaphylaxis, or any serious vaccine reaction, or hypersensitivity/allergy to any vaccine or components of study vaccine.

	8. Infants with known or suspected impairment of the immune function, or those receiving immunosuppressive therapy such as anti-cancer chemotherapy or radiation therapy or received immunosuppressive therapy prior to study entry (For corticosteroids, this will mean prednisone ≥ 0.5 mg/kg/day or equivalent for more than 2 consecutive weeks. Inhaled or topical steroids are allowed). 9. Presence of evolving or changing neurological disorder or infant with a history of seizures and/or encephalopathy. 10. Known thrombocytopenia or a bleeding disorder. 11. Known personal or maternal history of HIV, Hepatitis B or Hepatitis C seropositivity. 12. Planned surgery during the study. 13. Receipt of blood or blood-derived products or immunoglobulins or planned administration during the trial which might interfere with the assessment of the immune response. 14. Participation in another clinical trial 4 weeks preceding the trial enrolment or planned participation during the present trial period in another clinical trial. 15. Infants whose families are planning to leave the area of the study site before the end of the study period.
REASSESSMENT OF ELIGIBILITY PRIOR TO BOOSTER DOSE FOR PART II	**Inclusion Criteria** 1. Male or female subjects aged between 12-24 months of age at the time of vaccination. 2. Subjects with a good health, as determined by the medical history, physical examination and clinical judgment of the Investigator. 3. Subjects who have received 3 doses of HEXASIIL™ or comparator vaccine *viz*., SIIPL Pentavac + Poliovac as part of primary immunization series in same study and have not received the booster dose in the second year of life (a minimum 6 months gap should be maintained between the last dose of primary series and the booster dose). **Exclusion Criteria** 1. History of diphtheria/tetanus/pertussis/hepatitis B/*Haemophilus Influenzae* type b/poliomyelitis infection(s) (confirmed either

	clinically, serologically or microbiologically). 2. Fever ≥ 38°C/100.4°F and/or any evidence of acute illness and/or receipt of antibiotics in the past 3 days. 3. Administration of any vaccine (except OPV during government immunization campaign) in the 4 weeks preceding booster vaccination or planned receipt of any non-study vaccine 4 weeks post booster vaccination. 4. History of any clinically significant chronic disease such that in the opinion of the Investigator may interfere with the evaluation of the study objectives. 5. History of anaphylaxis, or any serious vaccine reaction, or hypersensitivity/allergy to any vaccine or components of study vaccine. 6. Presence of evolving or changing neurological disorder or subject with a history of seizures and/or encephalopathy. 7. Subjects with known or suspected impairment of the immune function, or those receiving immunosuppressive therapy such as anti-cancer chemotherapy or radiation therapy or received immunosuppressive therapy within 3 months prior to booster dose (For corticosteroids, this will mean prednisone ≥ 0.5 mg/kg/day or equivalent for more than 2 consecutive weeks. Inhaled or topical steroids are allowed). 8. Known thrombocytopenia or a bleeding disorder. 9. Known personal or maternal history of HIV, Hepatitis B or Hepatitis C seropositivity. 10. Planned surgery during the study. 11. Receipt of blood or blood-derived products or immunoglobulins in the past 3 months, current or planned administration during the trial. 12. Participation in another clinical trial during the study period.
STATISTICAL CONSIDERATIONS	
SAMPLE SIZE JUSTIFICATION	
PART I	**Safety** No formal sample size calculation is performed for Part I of the study as this is Phase II descriptive study to assess mainly safety in toddlers. In

	terms of safety, the planned sample size will allow identification of common AEs. With a sample size of 111 vaccinated subjects per group, this study design allows a greater than 90% chance of observing at least one AE if true incidence rate is 2.08%. Conversely, if no AEs are observed in 111 vaccinated subjects then the study will be able to rule out AEs occurring at a rate of approximately 3.3% or above based on the upper bound of the two-sided 95% confidence interval (CI). **Immunogenicity** Assuming the SD of log10-transformed immunoglobulin G (IgG) concentration is ≤ 0.65, with a sample size of 100 evaluable subjects and a dropout rate of 10% per group (111 randomized subjects per group), the study has power of at least 90% for each antigen/serotype, to detect at least 0.5 of GMC/GMT ratio between HEXASIIL™ and the Comparator (SIIPL Pentavac + Poliovac) vaccine groups.
PART II	The Part II of the study is designed to have at least 90% power to meet one primary objective and one secondary objective. Testing primary objective of NI will have ~ 95% power and testing secondary objective of Lot-to-lot (LTL) consistency have at least 96% power at two-sided α of 0.05. To preserve α at 0.05 and to maintain at least 90% power for the study a fixed sequence statistical strategy is used. This strategy will test primary objective hypothesis of NI and secondary objective hypothesis of LTL consistency at same significance level of 0.05 by testing two hypotheses in predefined fixed sequential order i.e. primary endpoint related to NI will be tested first with two-sided α as 0.05 and if we get evidence of statistical significance for NI testing only then the secondary endpoint related to LTL consistency will be tested with same two-sided α as 0.05. The study will be declared successful if at least NI is demonstrated irrespective whether LTL consistency may or may not be achieved. However, if NI is not demonstrated then we will not be able to test hypothesis related to LTL consistency. Non-inferiority and LTL consistency (if allowed) will be demonstrated if NI and equivalence hypotheses are proved for all antigens/serotypes analyzed. Here for all comparisons instead of adjusting level of significance α, high power is assumed for individual comparison of each antigen/serotype. The sample size was chosen in an iterative, trial-and-error fashion to give the desired power of at least 90%. We first derived sample size for

	LTL consistency and then adjusted with respect to NI for 2:1 allocation ratio [HEXASIIL™: Comparator (SIIPL Pentavac + Poliovac) vaccine]. Thus, the plan is to randomize 1260 subjects: 840 subjects to receive HEXASIIL™ (280 in each of 3 lots) and 420 to receive Comparator (SIIPL Pentavac + Poliovac) group for testing the primary objective of NI. The sample size for testing the secondary objective of LTL consistency will be 840 (280 in each of 3 lots). Due to the unanticipated current COVID-19 situation and subsequent lockdown, some subjects could not visit the study site and complete the primary vaccination series as per schedule or even within ≤ 6 months of age. Further, some subjects received the primary immunization outside the study. These are considered Major protocol deviations and such subjects will not be considered for primary and secondary analysis using PP Population. In order to bridge this gap and to maintain the power of the study to 90%, few additional subjects may be enrolled in Phase III part of the study.
IMMUNOGENICITY ANALYSIS	
PART I & PART II	Comparisons for immunogenicity will be based on the different antigen/serotype-specific concentrations/titres of IgG antibody 4 weeks after one dose of vaccination in toddlers in Part I and 4 weeks after the 3-dose primary vaccination series in Part II, measured by ELISA for all antigens and Neutralization Assay for poliovirus types 1 & 3. Comparisons for immunogenicity objective for Part II will be based on the antigen/serotype-specific IgG concentration/titre, 4 weeks after the 3-dose primary vaccination series. Immunogenicity will also be evaluated 4 weeks after the booster dose as an exploratory objective for Part II. The details of threshold for each antigen/serotype are provided in below table. **Threshold for defining Seroresponse (Seroprotection/ Seroconversion) to Study Vaccination for each Antigen/Serotype for IgG Antibody Concentration /Titre**

S.No.	Antibody	Threshold (Criteria for Evaluation)
1.	Anti-Diphtheria [Seroprotection]	≥ 0.1 IU/mL
2.	Anti-Tetanus [Seroprotection]	≥ 0.1 IU/mL

3.	Anti-PRP [Seroprotection]	≥ 0.15 µg/mL
4.	Anti-HBsAg (Hep B) [Seroprotection]	≥ 10 mIU/mL
5.	Pertussis IgG [Seroconversion]	In subjects with no quantifiable antibody - below LLOQ -prior to vaccination, seroconversion is defined as achieving a quantifiable antibody level post-vaccination. In subjects with quantifiable antibody prior to vaccination, seroconversion is defined by a 4-fold-increase in antibody titres from pre- to post-vaccination.
6.	Anti-Polio Type 1 [Seroconversion]	≥ 8 (1/dilution)
7.	Anti-Polio Type 3 [Seroconversion]	≥ 8 (1/dilution)

For each of the antigen/serotype in HEXASIIL™, the distributions of IgG concentration/titre will be displayed in tabular form (e.g. number of observations, number of responders, percentage responding, geometric mean and its 95% CI) and graphically by reverse cumulative distribution (RCD) curves. These curves will allow visual comparison of percentiles (e.g. median, 25th and 75th percentiles) for each antigen/serotype in HEXASIIL™. Summaries will include percentage of seroresponders (Seroprotection/seroconversion responders), GMC/GMT and ratio of GMCs or GMTs for HEXASIIL™ to those for Comparator (SIIPL Pentavac + Poliovac) vaccine.

Non-inferiority comparisons will be based on a two-sided 95% CI for the difference in proportions calculated by a Farrington and Manning method and LTL comparisons will be based on the two-sided 95% CI for a ratio of GMCs/GMTs calculated by exponentiating the limits of a CI for the difference in means of log10 (concentration/titres), which will be calculated assuming a normal distribution for log10 (concentration/titres) and for finding GMC ratio and corresponding CIs will be back-transformed considering base 10 of log transformed data.

If NI is demonstrated, then primary objective of NI of HEXASIIL™ is supposed to be met and then study will be considered successful. The secondary objective of LTL consistency will be tested only after the success of the primary objective else hypotheses testing with respect to LTL consistency (equivalence) will be stopped, as we are following fixed-order sequential testing approach.

SAFETY ANALYSIS	
PART I & PART II	Unsolicited AEs and SAEs will be summarized by SOC and PT using the MedDRA as “n (%), E” where n represents the number of subjects who experienced any particular AE at least once; % represents percentage of subjects who experienced that particular AE and E represents frequency (count) of that AE. Adverse events and SAEs will also be summarized by severity and relationship to vaccine “n (%), E”. Occurrence of local and systemic AEs within 7 days after vaccination will be reported for both HEXASIIL™ and Comparator (SIIPL Pentavac + Poliovac) vaccine. For solicited AEs, two-sided 95% exact CIs for each of the proportions will be provided, as well as two-sided 95% CIs for the difference between the proportions in subjects from HEXASIIL™ and Comparator (SIIPL Pentavac + Poliovac) vaccine group.
ANALYSIS POPULATIONS	
PART I & PART II	**Enrolled Population** The Enrolled Population includes all screened subjects whose parent(s) provide informed consent, regardless of whether the subject is randomized to receive a study vaccine. This population will be used only to provide summary for subject disposition, starting with the informed consent. The enrolled population will not be used for analyses. **Randomized Population** The Randomized Population includes all eligible subjects who are randomized in the study, regardless of whether the subject received a study vaccination. This population will be used to provide summary for subject disposition as per randomization and vaccination status. **Full Analysis Set** **Part I** The Full Analysis Set (FAS) includes subjects in the enrolled population who were randomized, received study vaccination and have pre- and post-vaccination immunogenicity measurement(s) 4 weeks i.e. 28 days post vaccination. **Part II** The FAS includes subjects in the enrolled population who were randomized, received three doses of primary vaccination series of study

	vaccination and have pre- and post-vaccination immunogenicity measurement(s) 4 weeks i.e. 28 days from third dose of the primary vaccination series, available for subjects. Analysis for Part I and Part II will be according to the treatment group assigned at the time of randomization, regardless of whether subjects receive any study vaccine different from that to which they were randomized. The analysis based on this population will serve as supportive results for the immunogenicity objectives. **Safety Population** The Safety Population includes all subjects who were randomized and received at least one dose. Vaccine groups for safety analyses will be assigned according to the actual vaccine received at Dose 1. **Per Protocol Population** The Per Protocol Population (PP) includes subjects from FAS population who received all study vaccines as per the assigned vaccine group and have pre- and post-dose immunogenicity measurement(s) with no major protocol deviations that were determined to potentially interfere with immune response to the study vaccine. This population will serve as the primary analysis population for the immunogenicity objectives. The criteria for exclusion of subjects from the PP Population will be established prior to review and analysis of protocol deviations that occur in the study. Based on this, PP population will be finalized before database lock.

SCHEDULE B
STUDY BUDGET- PART- II

PART II Study Budget														
Heading	**Visit 1**	**Visit 2**	**Visit 3**	**Visit 4**	**Visit 5**	**Visit 6**	**Visit 7**	**Pre-booster Follow up visit (Month 6, 9, 12,)**	**Visit 8**	**Visit 9**	**Visit 10**	**Total**	**No. of Subjects randomized**	**Total per study**
Day	06 to 08 weeks	V1+07 days	10 to 12 weeks	V3+07 days	14-16 weeks	V5+07 days	18 to 20 weeks		Age 12-24 months	V8+07 days	V8+28 days			
Informed Consent	700	-	-									700	100	70,000
Medical History, Reviews of AE/SAE/Concomitant Medications	500	500	500	500	500	500	500	1,500	500	500	500	6,500		650,000
Physical Examination	600	600	600	600	600	600	600	1,800	600	600	600	7,800		780,000
I/E Criteria	600	-	-									600		60,000
Randomization	500	-	-									500		50,000
Study Vaccination	400		400		400				400			1,600		160,000

Review of Diary Cards	-	300	300	300	300	300	300	900	300	300	300	3,600		360,000
Blood Sample for Immunogenicity	500	-					500		500		500	2,000		200,000
Follow up FRA Cost		250	250	250	250	250	250	750	250	250	250	3,000		300,000
Total (A)	**3,800**	**1,650**	**2,050**	**1,650**	**2,050**	**1,650**	**2,150**	**4,950**	**2,550**	**1,650**	**2,150**	**26,300**		**2,630,000**
Screen Failure (Assumption: 10% of randomized)... **(B)**														
Screening Process	3,000												10	**30,000**
TOTAL (A+B+C)														
Institute Overhead 25% .....(D)	**0.25**											**-**		**665,000**
Total (A+B+C)												**-**		**3,325,000**
Subject visit reimbursement	500	500	500	500	500	500	500	1,500	500	500	500	**6,500**		650,000
Screen Failure visit Reimbursement	500												10	5,000
Total Subject reimbursement cost .....(E)														**655,000**
Archival Charges* ** One time charges .....(F)*	75,000													**75,000.00**
Total Cost														

														4,055,000.00
Total per Subject Cost														**40,550.00**

Notes:
● Subject visit (quarterly) post 12 month till receipt of Booster dose will be reimbursed as per the actual visit conducted.
● Period of recruitment is 3 months.
● Maximum number of screen failures for which Investigator to be compensated shall not exceed 10% of total randomized subjects at the site.
● INR 500/- will be paid as a screening visit travel reimbursement for screen failures not exceeding 10% of the total randomized subject at the site.
● The study recruitment will be a competetive, and there will be no upper limit to actual number of subjects enrolled. The final costs will be based on the actual number of subjects enrolled and actual number of visits completed. The final calculation will be done on prorated basis.
● Outpatient cost, if occur, would be reimbursed at actuals.

PAYMENT SCHEDULE

In connection with the Study, Sponsor will pay in accordance with the terms set forth in the Budget (schedule B):

1. Payments (Investigator Grant, Institutional overheads and Patient Compensation) will be made on monthly basis for the amount proportional to the no. of subject visits completed in the preceding month. Site should submit the invoice for the completed subject visit at the end of each month. Sponsor/ designee will arrange to remit the funds to site within 45 days of receipt of correct invoice from the site. If for any reason, site is unable to randomize even one patient in the study, the advance payment(if applicable) will be returned to the Sponsor/ designee within a reasonable period (not exceeding 30 calendar days) on receipt of written communication from Sponsor/ designee to refund this amount.

2. Monthly invoices will be cleared by the Sponsor/ designee within 45 days of submission irrespective of the data being source verified by the monitors. However, site needs to ensure that source data is updated real time and electronic Case Report Form is filled within 05 working days of subject visit. While clearing the invoices at Sponsor/ designee end, in-house monitors will remotely review the compliance to the data entered vs. actual patient visit in the period of invoicing

3. Payment will be pro-rata based on the actual no. of visits completed by the subject.

4. Screen failures would be paid at 3000 INR per subject and payment would be made at end of study. Notwithstanding the foregoing, the maximum number of screen failures for which Investigator shall be compensated shall not exceed 10% of randomized subjects at site.

5. Reimbursement for any investigation performed for safety evaluation will be on actuals on submission of bills.

<u>Other Terms and conditions:</u>

1. Investigator acknowledges that the Study is a multicenter study and the recruitment for this Study will be through competitive enrolment, and investigator may enroll more or less depending on the enrolment at other sites. Investigator agrees that enrolment in the Study will be restricted pursuant to the Protocol based on the inclusion / exclusion criteria. CRO / Sponsor retain the right, to be exercised at Sponsor's sole discretion, to terminate this Agreement for any reason, including poor enrolment.

2. Payment for drop outs or early terminated subjects would be pro-rated depending on the number of completed study visits. Invoice for completed visit will be raised at the end of each month.

3. If the payment towards the Institutional grant and subject compensation is paid to the investigator/institute directly by DiagnoSearch then it will be sole responsibility of the investigator/institute to pay the same to the concerned parties / individual (as applicable)

PAYMENT INSTRUCTIONS

1. All payments except subject compensation will be released after deduction of applicable taxes.

2. Payments will be made through cheque / bank transfer as per the payee details provided below.

Beneficiary Name	MGM Medical college ,Aurangabad
Bank Name:	IDBI bank
Bank Address	Adalat Road Branch, Survey No.20292,Ratnaprabha Building Kesarsinghpura Opp.LIC Bld.Aurangabad
Branch	Adalat Road Branch
Beneficiary Account No.	0376104000000107
TAX ID NUMBER (PAN)	AAATM4256E
IFSC Code	IBKL0000376

SCHEDULE C

STUDY TIMEFRAME

Recruitment:

PART II: Approx. 110 subjects. Total recruitment in 3 months

Case Record Form Completion:

General:

Data entry: 5 working days from completion of subject visit
Query resolution: 2 – 3 working days from query raised

For PSRT, DSMB meetings & data base lock:

Data entry: 2 workings days from the completion of subject visit (as per the announced dates)
Query resolution: within 1 working day from query raised

Source Documents:
Source documents must be maintained real time as and when subject visit is completed

Serious Adverse Event Notification:
SAE must be identified and reported as per the timeframe laid in New Drugs and Clinical Trial Rules, 2019 (GSR 227E).

Archival Period: 10 years post study completion