

NII wins a patent on typhoid vaccine composition

The DBT's National Institute of Immunology (NII), New Delhi wins a patent (Indian Patent Number 337799; granted on 02.06/2020) for a novel typhoid vaccine that can elicit memory antibody response from a single dose immunization, produced by entrapping carbohydrate antigen such as Vi polysaccharide of *Salmonella typhi* in poly (DL) lactide (PDLLA) and polylactide-co-glycolide (PLGA) polymer particles.

The image shows a patent certificate from the Government of India, Patent Office. The certificate is for a patent granted to the National Institute of Immunology (NII) for a novel typhoid vaccine. The patent number is 337799, and it was granted on 02.06.2020. The certificate is for a patent for an invention entitled "A NOVEL TYPHOID VACCINE ELICITING MEMORY ANTIBODY RESPONSE FROM SINGLE DOSE IMMUNIZATION". The certificate is for a term of 20 years from the 30th day of May 2011. The certificate is for a patent for an invention entitled "A NOVEL TYPHOID VACCINE ELICITING MEMORY ANTIBODY RESPONSE FROM SINGLE DOSE IMMUNIZATION" as disclosed in the above mentioned application for the term of 20 years from the 30th day of May 2011 in accordance with the provisions of the Patents Act, 1970.

पेटेंट सं. / Patent No.	337799
आवेदन सं. / Application No.	1539/DEL/2011
फाइल करने की तारीख / Date of Filing	30/05/2011
पेटेंटी / Patentee	NATIONAL INSTITUTE OF IMMUNOLOGY

प्रमाणित किया जाता है कि पेटेंटी की उपरोक्त आवेदन में ब्यवस्थित "A NOVEL TYPHOID VACCINE ELICITING MEMORY ANTIBODY RESPONSE FROM SINGLE DOSE IMMUNIZATION" नामक आविष्कार के लिए पेटेंट आविष्कार, 1970 के उपबंधों के अनुसार आज तारीख 30th day of May 2011 से बीस वर्ष की अवधि के लिए पेटेंट अस्तुत्व किया गया है।

It is hereby certified that a patent has been granted to the patentee for an invention entitled "A NOVEL TYPHOID VACCINE ELICITING MEMORY ANTIBODY RESPONSE FROM SINGLE DOSE IMMUNIZATION" as disclosed in the above mentioned application for the term of 20 years from the 30th day of May 2011 in accordance with the provisions of the Patents Act, 1970.

INTELLECTUAL PROPERTY INDIA
DESIGNS | TRADE MARKS | GEOGRAPHICAL INDICATION

02/06/2020
Date of Grant

02/06/2020
Date of Grant

नियम 104 के अन्तर्गत इस पेटेंट की रीन्यूअल फी 30th day of May 2013तक और उसके बाद हर वर्ष 30th day of May 2013 से हर वर्ष 30th day of May 2013 के तारीख को जमा करनी होगी।
Note - The fees for renewal of this patent, if it is to be maintained will fall / has fallen due on 30th day of May 2013 and on the same day in every year thereafter.

The formulated product mentioned in the patent not only elicits primary antibody titers from single dose application but also evokes memory antibody titer against the T independent antigen. This patent is about composition of Vi polysaccharide of *Salmonella typhi* entrapped in PLA particle along with excipients. Single dose immunizations of this novel vaccine formulation not only improve the immunogenicity of the carbohydrate antigen but also elicit secondary antibody response upon challenge with soluble Vi polysaccharide. Immunization of Vi polysaccharides entrapped PLA particle gave rise to two fold higher antibody titer (IgG) in mice from single dose intramuscular immunization. Memory antibody titers (secondary antibody) in case of animals immunized with polymer particle entrapped Vi polysaccharide were much higher than the primary response. Soluble immunization of Vi polysaccharide did not elicit memory antibody titer. The memory antibody titers observed with polymeric vaccine formulation is sustained at higher level for considerable point of time. The patent product has the capacity to induce immunological memory of carbohydrate

antigens without the use of T cell helper peptide. The vaccine formulation is stable and can be used to immunize children for developing both primary and memory antibody titers.

Link: Panda AK and Anish CK (2011) A Novel typhoid vaccine eliciting memory antibody response from single dose immunization (Indian Patent Number 337799; Granted on 02.06/2020).

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