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 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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