

Expression of interest for technology transfer

Title	A novel Salmonella Typhi protein as subunit vaccine
Assignee	ICMR
Inventor & His/her Institute	Santasabuj Das ICMR-National Institute of Cholera and Enteric Diseases, Kolkata
Technology Summary	A candidate subunit vaccine, derived from an outer membrane protein (T2544) present in both <i>S. Typhi</i> and <i>S. Paratyphi</i> (recombinant protein mixed with 2% alhydrogel at 1:1 ratio)
USP- Unique Selling Point	Simultaneously protective against both Salmonella Typhi and Paratyphi infections. Being highly immunogenic and non-toxic, it will be safe and effective for small children. Since it is a recombinant protein-based vaccine, our product would be much easier and cheaper to produce in large quantities with minimal batch to batch variations compared with the polysaccharide-based vaccines.
Application areas	Long term protection of humans from Salmonella infection
Present sources of product	A recombinant E. coli BL21 strain expressing the protein (T2544)
Technology advantages	<ol style="list-style-type: none"> 1. Strongly immunogenic and induces humoral and cell mediated immune response as well as secretory antibodies in the intestine. 2. Generates opsonic serum antibodies in both mice and humans (antibodies mediate complement-dependent lysis and antibody-dependent cellular cytotoxicity). 3. Capable to provide long-term protection as it induces B and T cell memory response. 4. Protective against both <i>S. Typhi</i> and <i>S. Paratyphi</i> infections and may protect against different circulating strains, as the antigen is widely distributed and conserved. 5. Expected to be immunogenic and safe for small children; the vaccine formulation showed no serious toxicities in the test animals. 6. Relatively inexpensive; recombinant protein purification requires no sophisticated equipment and batch to batch variation is minimal.