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Recombinant Vaccines Comprising Avirulent Immunogenic *Salmonella typhi* Having RpoS Positive Phenotype

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Inventors

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Intellectual Property Status:

US PCT #7083794
Also filed in other countries

Invention Description

The use of *Salmonella* as an immunogenic vector to deliver protective antigens encoded by genes from various pathogens as a recombinant vaccine to immunize humans is strongly enabled through use of a completely attenuated strain of *Salmonella typhi* with an RpoS^{+} phenotype. Such attenuated strains being unable to induce disease symptoms would afford safety advantages and flexibility of use over previously used attenuated *S. typhi* vaccine vectors that have an RpoS^{-} phenotype.

Investigators at the Biodesign Institute at Arizona State University have developed an improved more immunogenic genetically modified attenuated *Salmonella typhi* vaccine vector that is capable of delivering a variety of genes expressing antigenic proteins of interest. The microbes of this invention can be used as vectors for vaccines against several bacterial and some viral pathogens. Additionally, they can be potentially used as vectors for the synthesis of various host proteins to modulate the immune system and other physiological processes.

Potential Applications

- **The technology can be used for the development of numerous types of vaccines to protect humans against a diversity of pathogens causing infectious diseases in those individuals.**

Benefits and Advantages

Inexpensive to manufacture

Preserve by lyophilization and thermostable

- **Reconstitute at time and place of use**
- **Administer orally (needle-free)**
- **Overall very economical as safe effective vaccine**

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