



TECHNOLOGY

Attenuated Strains of Salmonella Typhi as Mucosal Live Typhoid Vaccines and Expression Vectors

OVERVIEW

Salmonella enterica serovar Typhi is the cause of typhoid fever, which remains an important public health problem in many parts of the world. Attenuated strains of S. Typhi were engineered by researchers at UMB's Center for Vaccine Development, and selected strains have proven safe and immunogenic in Phase 1 and Phase 2 human trials. The same strains have proven to be excellent live vectors for the expression of foreign antigens, making these strains very versatile for vaccine development.

APPLICATIONS

Active immunization against typhoid fever in high risk populations. Also proven as an oral delivery system as basis for vaccines against multiple types of pathogens.

ADVANTAGES

More convenient (i.e. one-dose, oral) vaccine against typhoid fever than currently available commercial vaccines. A need remains for improved typhoid fever vaccines, as the currently available commercial vaccines are only moderately effective (50% to 70%).

STAGE OF DEVELOPMENT

The vaccine strain CVD 909 is in Phase 2 clinical development, having completed a second Phase 1 trial in a prime-boost regimen with the live strain CVD 909 as an oral prime followed by a parenteral boost with commercial Vi polysaccharide vaccine.

R&D REQUIRED

Completion of clinical testing.

LICENSING POTENTIAL

UMB seeks partners for completion of clinical development.

CONTACT INFO

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Additional Information

INSTITUTION

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PATENT STATUS

U.S. Patent No. 6,190,669 Attenuated Mutants of Salmonella which Constitutively Express the Vi Antigen, issued February 20, 2001; issued patents in multiple European countries, Japan, Canada, and Australia; pending Indian patent application.

LICENSE STATUS

Licensed exclusively

CATEGORIES

- Therapeutics
- Vaccines

INVESTIGATOR(S)

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EXTERNAL RESOURCES

- [CVD 908, CVD 908-htrA, and CVD 909 live oral typhoid vaccines: a logical progression.](#)
- [Cell-mediated immune responses in humans after immunization with one or two doses of oral...](#)
- [Recombinant Salmonella enterica serovar Typhi in a prime-boost strategy.](#)
- [Immune responses to an oral typhoid vaccine strain that is modified to constitutively express Vi capsular polysaccharide.](#)

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