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NOVEL VACCINE FORMULATION FOR OCULAR IMMUNIZATION

REFERENCE:
443.13

APPLICATIONS:
- Ocular therapeutics
eg. Chlamydia, Clostridia, Brucella, Yersinia, Viruses
- Conjunctival immunization

IPR:
US2016067324
EP2988777

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The present invention specifically provides a novel vaccine formulation suitable for ocular immunization and provides a method for inducing a local and systemic immune response. The combination of the three components antigen & corpusculate bodies (eg. Bortedella pertussis (wBP)) & adjuvans showed the highest rise in IgA antibody titers in tears and sera when compared to other immunization groups. Immunization via the conjunctiva with TTd plus wBP and adjuvant resulted in a 33% survival rate of challenged mice compared to a 0% survival rate in non-immunized animals.

ADVANTAGES

- **needle-free vaccine administration strategy**
- **most effective means of inducing an immune response**
- local exposure to an antigen results in much higher levels of specific sIgA and an associated mucosal immunologic memory in the region of exposure than in distant sites
(Holmgren et al, Curr Opin. Immunol., 2012, 24(3))
- in addition to IgA responses, mucosal vaccination induces systemic IgG responses that represent a further defense against invasion by microorganisms
- in addition to serum IgG and mucosal IgA antibodies, mucosal immunization stimulates cell mediated responses including helper CD4+ T cells and CD8+ cytotoxic T lymphocytes, the latter being important to combat intracellular pathogens.

NEXT STEPS

- Phase II trial: evaluation of the response rate / efficacy to various doses of antigen administered, to demonstrate clinical proof of concept.

COOPERATION OPTIONS

- Development partnership
- License agreement, patent sale or other

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