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## NOVEL VACCINES AGAINST *STREPTOCOCCUS AGALACTIAE* INFECTION

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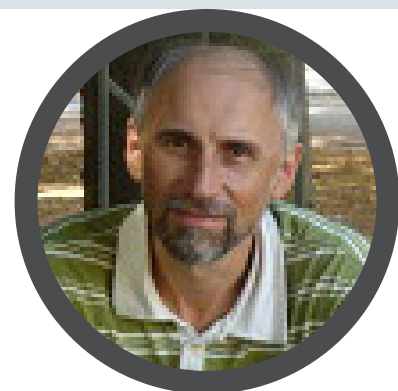
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**Introduction:** *Streptococcus agalactiae* (group B streptococcus–GBS) is a severe human pathogen causing diseases in newborns and elderlies. This makes GBS infection an important medical and social problem requiring vaccine prophylactics. Presently, there are couple vaccine candidates in testing. However, there are no GBS vaccines in the market. Present work describes the results of several variants of GBS vaccines based on recombinant surface expressed proteins.

**Materials & Methods:** Recombinant GBS proteins were obtained after cloning of the gene fragments encoding for the immunogenic epitopes of the surface expressed proteins and expressing them in the *E.coli*. Recombinant chimeric vaccines were generated after chemical synthesis of DNA molecules encoding for several immunogenic epitopes belonging to different proteins. Artificial DNA was cloned in the *E.coli* expression vectors with the following isolation of recombinant chimeric proteins. Life vaccines were developed after incorporation of the streptococcal DNA into the probiotic strains chromosome. Immunogenicity and protectiveness were tested on various mice models. Antibody levels were tested by ELISA.

**Results & Conclusion:** We have developed several streptococcal vaccine candidates based on different approach—making the mixture of recombinant proteins or making recombinant chimeric vaccines consisting from several immunogenic surface proteins epitopes artificially assembled in one protein molecule. These GBS vaccines against *S. agalactiae* had been tested on several experimental models which proved their immunogenicity and are protective. This approach had been expanded for making new life vaccines for mucosal immunization with expression of streptococcal vaccine antigens by the probiotic bacteria as delivery vehicles. These probiotic vaccines had been also shown to be immunogenic and protective. The future of practical implication of novel streptococcal vaccine candidates is discussed.



### Biography

Alexander Suvorov, MD, has completed his PhD in Biochemistry in the Institute of Experimental Medicine, Russia and Postdoctoral studies from Minnesota and Oklahoma Universities. He is the Head of the Department of Molecular Microbiology in the Institute of Experimental Medicine, Saint-Petersburg Russia; Head and Professor of the Faculty of Fundamental Medicine in Saint-Petersburg State University. He has published more than 100 papers in reputed journals and has been serving as an Editorial Board Member of several Russian and International Journals. Recently, he became a Corresponding Member of Russian Academy of Science.

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