



Technology Licensing Opportunity: Mastitis vaccine

Non-Confidential Summary

Background

VIDO-InterVac has developed a subunit recombinant chimeric vaccine using antigens from *Streptococcus uberis*, *S. agalactiae* and *S. dysgalactiae*. This vaccine has demonstrated immunogenicity and efficacy in vivo.

Development Stage:

Immunogenicity and efficacy data available. The vaccine against *S. uberis* includes two recombinant proteins, a chimeric protein composed of the *S. uberis* plasmin-binding GapC protein as the backbone and non-conserved regions of the *S. agalactiae* and *S. dysgalactiae* GapC proteins. The adjuvant was a proprietary adjuvant - VSA3. The second recombinant antigen is a chimeric protein containing the *S. uberis* CAMP factor as the backbone and non-conserved regions of the *S. agalactiae* CAMP protein. The results show that the milk somatic cell counts (SCC) were significantly decreased in animals challenged with *S. uberis*. The immunogenicity of the vaccine may be enhanced by using alternate adjuvants.

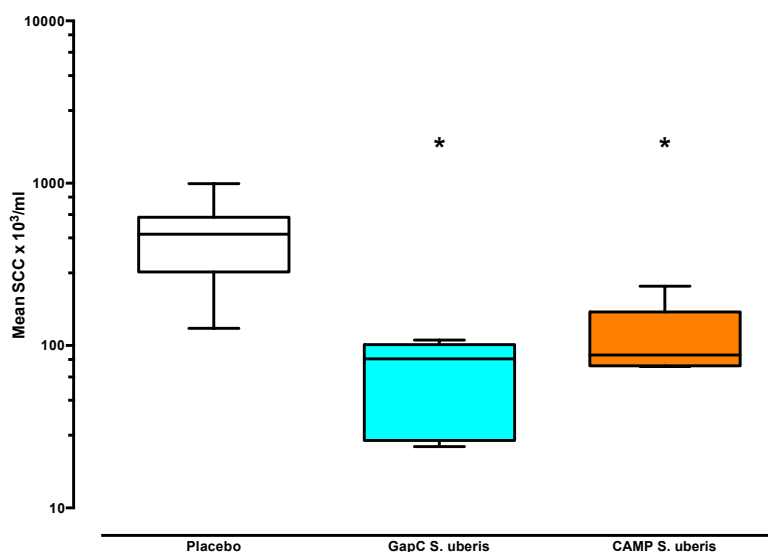


Figure 1: SCC from milking cows vaccinated with recombinant chimeric proteins. Challenge *S. uberis*. * P<0.05

Intellectual Property

The Intellectual property includes issued U.S. patents (as follows) plus additional patent applications.

- 7,749,516 Immunization of dairy cattle with GapC protein against Streptococcus infection
- 7,700,117 Camp factor of *Streptococcus uberis*
- 7,273,930 Immunization of dairy cattle with GapC protein against Streptococcus infection
- 7,258,992 Immunization of dairy cattle with chimeric GapC protein against Streptococcus infection



- 6,936,259 CAMP factor of *Streptococcus uberis*
- 6,908,619 Camp factor of *Streptococcus uberis*
- 6,887,686 Cloning and expression of *Haemophilus somnus* transferrin-binding proteins
- 6,875,853 Immunization of dairy cattle with chimeric GapC protein against streptococcus infection
- 6,866,855 Immunization of dairy cattle with GapC protein against Streptococcus infection
- 6,833,134 Immunization of dairy cattle with GapC protein against Streptococcus infection
- 6,740,322 Immunization of dairy cattle with Mig protein
- 6,660,270 Immunization of dairy cattle with chimeric GapC protein against Streptococcus infection
- 5,863,543 Camp factor of *Streptococcus uberis*

Publications

- Bolton A, et al. Use of the surface proteins GapC and Mig of *Streptococcus dysgalactiae* as potential protective antigens against bovine mastitis. *Can J Microbiol.* 2004 Jun;50(6):423-32.
- Perez-Casal J, et al. A GapC chimera retains the properties of the *Streptococcus uberis* wild-type GapC protein. *Protein Expr Purif.* 2004 Feb;33(2):288-96.
- Fontaine MC, et al. Immunisation of dairy cattle with recombinant *Streptococcus uberis* GapC or a chimeric CAMP antigen confers protection against heterologous bacterial challenge. *Vaccine.* 2002 May 22;20(17-18):2278-86.
- Song XM, Perez-Casal J, Bolton A, Potter AA. Surface-expressed mig protein protects *Streptococcus dysgalactiae* against phagocytosis by bovine neutrophils. *Infect Immun.* 2001 Oct;69(10):6030-7.

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