Oral Vaccine for Porcine Circovirus Type 2

DESCRIPTION

Vaccine of preferential administration via mucous membranes, for the control of diseases generated by agents or infectious agents that use heparan sulfate (HS) as a cellular receptor, consisting of an immunogenic formulation for veterinary use and comprising an antigen whose cellular receptor is heparan sulfate (HS), a vehicle for oral, intranasal or parenteral administration. The vaccine is based on particles similar to PCV2 virus (PSV) derived from yeast and microencapsulated with chitosan. Evidence suggests it might also be useful for other heparin-sulfate receptor disease pathogens across multiple livestock, aquaculture, and companion animal species.

CURRENT DEVELOPMENT STAGE

TRL 5

This technology has reached pre-clinical trials in mice and pigs in relevant environments and with some controlled variables in order to optimize the chitosan formulation of the vaccine.

MARKET OPORTUNITY

Market size: US$ 6.440 Mio. (2017)
CAGR: 5,9%
Segment: Veterinary Vaccines

In 2017, the porcine vaccine segment is expected to account for the largest share of the global veterinary vaccines market, in terms of value.

The North America porcine vaccine market is highly fragmented owing to the presence of numerous large and small players. Zoetis, Inc., Merial Animal Health, Merck Animal Health, and Elanco Animal Health are the top four players that accounted for around 74.0% of entire market. Three out of the top four animal health companies are already engaged in the PCVD market with their own injectable vaccine technology. Nevertheless, a new and highly effective vaccine technology may disrupt their market.

COMPETITIVE ADVANTAGE

Currently, a commercially available mucosal vaccine against PCV doesn´t exist.

There is no combined vaccine against PCV2 and M. Hyopneumoniae in Chile and the Latin American market available, too.

An oral formulation may generate a stronger protective mucosal-generated immunity against PCV diseases.

The chitosan sulphate presents structural similarity with the HS cell receptor; therefore, this biopolymer can generate a specific binding effect against CRP-associated antigens that use this receptor, which is expected to facilitate the design of more effective vaccines against CRP with regard to microencapsulation and controlled delivery.

PROTECTION

Patent Pending in Chile, USA, Mexico & EU.

CL 2015/003257 A1,
WO 2017/075730 A1,
EP 3372240 A1,
MX 2018/005596 A1.