RECOMBINANT PEPTIDE OF PORIN OF 42-kDa, USE OF VACCINE ANTIGENS IN THE DETECTION OF ANTIBODIES AGAINST *Histophilus somni*

Offering Organization:	Centro de Investigación y Asistencia en Tecnología y Diseño del Estado de Jalisco, A.C.
Type of Organization:	Public Research Center
Development Stage:	Laboratory
Desired Relationship:	– Technological research and development financing (technological partner) – Specialized application tests – Creation of a new company (Joint Venture) for the commercialization of the products outlined herein – Licensing of patents
Sector:	Biotechnology
Area of knowledge:	Medicine
Key words:	Recombinant peptide*, Histophilus somni*

DETAILED DESCRIPTION:

Problem to be solved:

Pneumonia is a respiratory infection that affects cattle, primarily in the respiratory tract. A very important illness that falls into this category is the Bovine Respiratory Disease Complex (BRDC). This term is used to describe acute pneumonia that occurs when the animal is subjected to stressful conditions. These diseases are of great importance as they significantly affect commercial production and exploitation, directly affecting the profits of the producer and the country in which they take place. The problems that can occur are as follows: decreased daily weight gain, treatment costs, decreased production of meat and milk, risk of transmission to other animals, agitated breathing, nasal discharge, cough, conjunctivitis and high fever. In Mexico the economic losses due to this illness are considerable, and while there are no figures that reveal the extent of the problem, some studies report that the prevalence and incidence of BRDC in stables can be as high as 24%.

Solution:

This invention presents a method to invoke an immune response against *Hisophilus somni* in animals by administering a recombinant peptide corresponding to a porin of 42 kDa with an amino acid sequence of 129 to 339. It also claims the formation of a vaccine against *Hisophilus somni* that is comprised of a pharmaceutically acceptable carrier and a recombinant peptide corresponding to a porin of 42 kDa with an amino acid sequence of 129 to 339.

New and Innovative Aspects:

- The capacity to induce a humoral immune response in mice and cattle.
- Provides a method to stimulate the humoral system of mice and cattle with only 0.5 and 500 micrograms of recombinant peptide.

TECHNICAL CHARACTERISTICS:

This invention claims a formulation of a vaccine against *Histophilus somni* which is comprised of a pharmaceutically acceptable carrier and a recombinant peptide

corresponding to porin of 42kDa with an amino acid sequence of 129 to 339.The best method for carrying out the invention is:

1. Obtainment of recombinant peptide.
2. Preparation of the vaccine and vaccination of animals.
3. Evaluation of the immune response.

Main advantages derived from its utilization:

Produces an immune response against *Histophilus somni* in animals through the administration of a recombinant peptide for the detection of specific antibodies in the serum of cattle infected with said illness.

Applications:

- Vaccines

INTELLECTUAL PROPERTY

- Patent filed in 2014
- MX/a/2014/014089

ABOUT THE OFFERING ORGANIZATION

Presentation:	El Centro de Investigación y Asistencia en Tecnología y Diseño del Estado de Jalisco, A.C. (CIATEJ) is a public research center that belongs to the national technology development and innovation network, the National Council for Science and Technology (CONACyT). CIATEJ is focused on the agricultural, food, health, and environmental sectors with an emphasis on the application of innovative biotechnology.
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