

PHARMACEUTICAL COMPOSITIONS OF CD5 FOR THE TREATMENT OF INFECTIOUS AND INFLAMMATORY PROCESSES OF FUNGAL ORIGIN

A research group, with wide experience in immunology has developed a recombinant soluble form of CD5 for the prevention and treatment of fungal infection, fungal septicemia or any inflammatory disorder unchained by fungal components.

BACKGROUND

Sepsis is defined as the presence of an infection accompanied by evidence of a systemic response called the Systemic Inflammatory Response Syndrome (SIRS). The systemic inflammation and disordered coagulation can lead to organ failure or death. As disease, it is a major unmet medical need that has no satisfactory treatment.

The transmembrane receptors CD5 and CD6 are two lymphoid members who share important similarities at functional and structural level. However, whereas soluble and membrane forms of CD6 bind to the surface of Gram negative and Gram positive bacteria, cells that express CD5 in surface recognize and have more affinity for fungal cells.

TECHNOLOGY DESCRIPTION

The research group has developed a recombinant soluble form of the human CD5 protein that has proved to:

- Cause prophylaxis *in vivo* by itself in front of fungal infections.
- Bind and aggregate fungal cells.
- Have a protective effect in syndrome of septic shock in murine model (Mice treated with the protein show increased survival with comparison to control animals).

These results support the therapeutic activity of the administration of the soluble form of human CD5 for the treatment of the syndrome of septic shock or other inflammatory processes of fungal origin.

ADVANTAGES

- Prophylaxis and early treatment of fungal infections and fungal septicemia
- New mechanism of action, potentially compatible and complementary to the current standard treatments.
- Soluble CD5 is a physiologically existing molecule. Low safety risk is expected from the administration of CD5.
- This recombinant protein could be used for the treatment of other inflammatory processes due to its action over the adaptive immune system.

CURRENT STAGE OF DEVELOPMENT

In vivo preclinical studies in murine models

GOAL

We are searching companies interested in the acquisition of the license.

PATENT

Patent application number: P200801860
Applicants: Hospital Clínic i Provincial and Universitat de Barcelona

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