Technology Offer
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chronic inflammatory disease

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Offer
license or co-development

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N-modified interleukin,
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RECOMBINANT HUMAN CYTOKINE THERAPY
FOR CHRONIC INFLAMMATORY DISEASES

Introduction

Most chronic inflammatory diseases, including autoimmune conditions, neurodegeneration and metabolic diseases, are multifactorial and involve complex immune dysfunction. Current therapy is mainly directed towards inhibition of pro-inflammatory protein cytokines, such as IL-1β or TNFα. Inhibitors of these mediators are either non-specific and/or cause general immunosuppression with increased incidence of infections. Interest, therefore, has grown in potential pharmacological enhancement of endogenous anti-inflammatory processes, for instance with modulatory cytokines.

Invention

The discovery of an N-modified interleukin (N-mod IL-X) as an endogenous antagonist of several proinflammatory cytokine receptors opens up a new approach to therapy of chronic inflammatory diseases. The invention comprises a recombinant form of N-mod IL-X which is suitable for therapeutic administration. Because of its antagonist action at multiple cytokine receptors, it represents a single drug candidate which targets various inflammatory processes with corresponding broad therapeutic activity.

Market Potential

The invention provides therapeutic opportunities in:
- inflammatory autoimmune diseases such as rheumatoid arthritis or lupus
- low level chronic inflammation, as in obesity or atherosclerosis
- neurodegenerative diseases such as multiple sclerosis

Development Status

The concept has been demonstrated in gene knockout studies at a cellular level and is currently under investigation in animal experiments.

IL-X inhibits the activation by inflammatory mediators of NFκB in dendritic cells and AP-1 in macrophages and thereby ameliorates inflammation.

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