

STEROIDAL ANTI-INFLAMMATORY COMPOUNDS

“The compounds present anti-inflammatory, analgesic and immunosuppressant properties suitable for the treatment of chronic inflammatory processes, asthma, organ rejection and autoimmune diseases.”



Source: www.istockphoto.com

Research into potential targets



Preclinical research

Clinical research

Registration

Market

▶ Drug

Description

The technology consists of a process to obtain steroidal anti-inflammatory compounds, pharmaceutical compositions containing such compounds and their uses in the treatment of inflammatory diseases. These new compounds present anti-inflammatory, analgesic and immunosuppressant properties which are useful for the treatment of chronic inflammatory processes, asthma, organ rejection and autoimmune diseases.

Problem

Glucocorticoids are drugs widely employed as anti-inflammatories and immunosuppressants. However, their use is seriously limited due to their adverse effects and their pharmaceutical forms and administration modes. Moreover, commercial anti-inflammatory drugs cause severe adverse effects such as gastric ulcers.

Proposed solution

This technology enables new compounds derived from glucocorticoids to be obtained with higher anti-inflammatory and analgesic activity than the original prototype compounds. The differentiated pharmacokinetic profile of these compounds allows them to be used as a sustained-release system of glucocorticoid drugs, thus reducing the need for multiple administrations, facilitating their use and improving patient compliance with the therapy.

Benefits

The main advantages of the technology are pharmacokinetic and pharmacodynamic effects. The anti-inflammatory and analgesic properties of the compounds act in synergy to augment the effectiveness of these activities. In vivo trials demonstrated that the compounds do not cause gastric ulceration, a common adverse effect of commercial anti-inflammatory drugs. The compounds also possess immunomodulatory properties, enabling their use as immunosuppressants for the prevention of organ rejection. They can be used for the treatment of diseases such as:

- Chronic inflammatory diseases in general;
- Asthma;
- Allergic diseases;
- Inflammatory eye diseases (e.g., uveitis);
- Inflammatory intestinal diseases (e.g., ulcerative colitis);
- Organ rejection;
- Prevention of organ rejection;
- Autoimmune diseases (e.g., psoriasis, rheumatism, etc.).

Market potential

According to the IMS Health report, two anti-inflammatories rank among the 10 generic medications most widely sold in Brazil, and the national sales of generic anti-inflammatory drugs showed a 65% growth rate from 2007 to 2008, representing revenues of US\$ 180 million. Anti-inflammatory drug sales in the United States showed a 63% growth in four years, generating revenues of US\$ 4.9 billion in 2009. Global sales of anti-inflammatories and analgesics in 2008 brought in revenues of US\$ 21.7 billion (The Pharma Report 2008 – IMS Health; U.S. Pharmaceutical Sales 2009 – IMS Health; Global Pharmaceutical Sales 2008 – IMS Health).

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