TECH PROFILE

COMPOSITION FOR USE IN THE PREVENTION AND/OR TREATMENT OF DISEASES MEDIATED BY TLR4, IL1R, COX1/2 AND/OR RBP4

Business area
Discovery

Market sector
Anti-inflammatory drugs

Medical Indication
Inflammatory diseases, such as Osteoarthritis (OA)

Research goal

Development of a pharmaceutical composition for use in the prevention and/or treatment of inflammatory diseases which can be administered topically, orally or through an intra-articular route, subcutaneous, intravenous or muscular injection. Currently there are very expensive biological drugs for the treatment of some of these pathologies, however, there is no drug that combines the properties (anti-TLR4, anti-IL1 and anti-COX), so our new proposal would solve this medical need not covered.

Problem to solve

OA is the most common chronic rheumatic disease and is mainly characterized by joint space narrowing due to progressive degradation of the articular cartilage. These joint alterations are associated with pain, disability and loss of joint architecture. Although cartilage is the main tissue altered during the progression of OA, it also affects other joint tissues, such as bone, the synovial membrane, and tendons. Consequently, it is considered a pathology that affects the entire joint. The inflammation that causes OA is often treated with inhibitors of the enzyme cyclooxygenase (COX). However, this pharmacological approach does not block all the inflammation associated with OA.

Innovation

From plant extracts with potential medicinal properties, three active principles (structurally closely related) were isolated for the study of their pharmacological potential. After performing a computational pharmacology study (in silico) and in vitro studies, it was observed that these compounds had anti-TLR4, anti-IL1R and anti-COX1/2 activities, accompanied by a significant capacity to inhibit the production of RBP4. Therefore, the present invention refers to a composition for use in the prevention and/or treatment of diseases mediated by TLR4, IL1R, COX1/2 and/or RBP4, preferably inflammatory diseases such as, for example, OA or other diseases, such as infectious diseases, causing an inflammatory response.

Market opportunity

The global anti-inflammatory drugs market size stood at USD 93.88 billion in 2019 and is projected to reach USD 191.42 billion by 2027, exhibiting a CAGR of 9.3% during the forecast period.

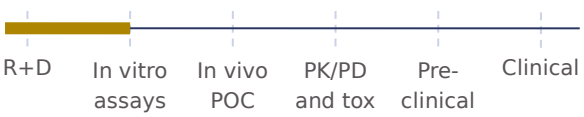
Research team

Musculoskeletal Pathology Research Group of the **Health Research Institute of Santiago de Compostela (IDIS)**. Principal Investigator: **Rodolfo Gómez Bahamonde**

Intellectual property

EP22382696

Development stage:



Available for: *Licensing, co-development*

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