

New anti-inflammatory compound for the treatment of immune diseases

The CSIC, University of Seville and Academia Sinica have developed a new compound based on glycolipid mimetics that can be used in the treatment or prevention of immune diseases acting as antagonist or agonist of the TLR4, a transmembrane protein member of the toll-like receptor family.

Industrial partners are being sought to collaborate through a patent license agreement or co-development.

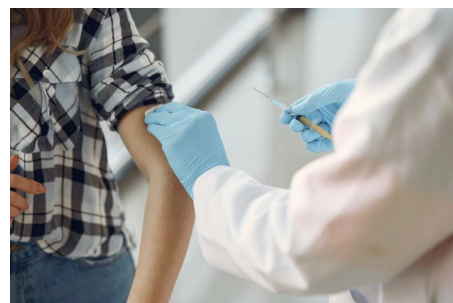
An offer for Patent Licensing

Synthetic glycolipid as agonist/antagonist of TLR4

Inflammation is a physiological response of the immune system to injury and infection. This process activates signaling routes aiming at healing and repairing damaged tissue, as well as at defending itself against infective agents, such as viruses and bacteria. TLR4 belongs to the pattern recognition receptor family, which plays a key role in the human defense mechanism and responds to invading pathogens with high selectivity and sensitivity.

However, unresolved or inappropriately activated inflammation can become pathogenic. Lack of target specificity and side effects are the current problems hampering clinical application of small molecule anti-inflammatory drugs. Discovery of novel target-specific compounds for treatment of these diseases is a big challenge with potentially significant scientific, commercial and social impacts.

Inventors of CSIC have synthesized a novel glycolipid mimetic that is metabolically stable and can be selectively modified to optimize the immunomodulatory profile in view of promoting an anti-inflammatory or an adjuvant response.



Vaccine

Main innovations and advantages

- Novel glycolipid mimetics that are able to express anti-inflammatory and adjuvant activity in a context dependent manner, according to their *in vivo* assays.
- A process to obtain said glycolipid mimetic with total stereoselectivity.
- The present invention provides a medicament such as an anti-inflammatory agent or a vaccine containing a glycolipid mimetic.
- Useful for the modulation of the immune system toward pro- or anti-inflammatory cytokine producing cells. Accordingly, can be used in the treatment and/or prevention of inflammation-associated conditions.

Patent Status

European patent application filed suitable for international extension

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