Technology Offer

New immunostimulants as vaccine adjuvants and drugs for the immunotherapy of cancer and infectious diseases

Fields of use
Human health. Oncology. Immunotherapy. Pharmaceutical industry. Biotechnology.

Current state of technology
Prototype

Intellectual property
Patent Application No.: LU102145

Developed by
University of Ljubljana, Faculty of Pharmacy

Reference
UL20200787010P

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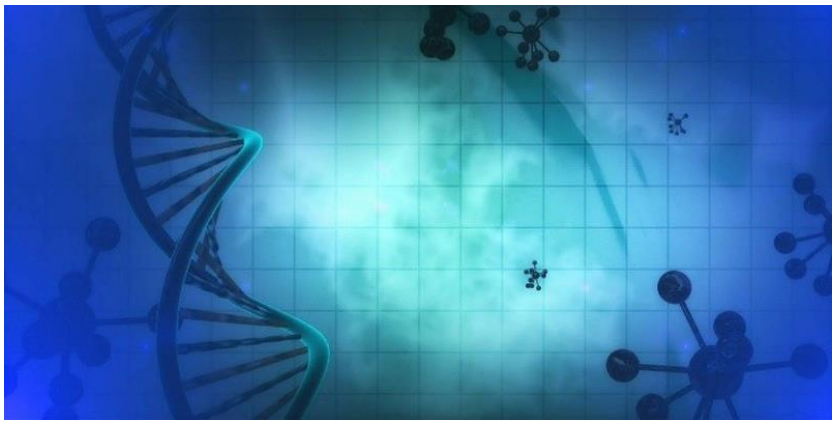

Background

The human innate immune system contains a series of pattern recognition receptors. Among them, NOD-like receptors and Toll-like receptors are attractive targets for the development of vaccine adjuvants and drugs for the treatment of infectious diseases and cancers.

Description of the Invention

Our specification refers to novel conjugated compounds that act as agonists of both TLR7 and NOD2. These novel compounds function as immunostimulants and are useful for the treatment of viral, bacterial, fungal and protozoal infections, tumours or cancers and other immunological diseases. Additionally, the conjugated compounds of the invention can be used as vaccine adjuvants, compounds that enhance the host's humoral and/or cellular immune response against the antigen.

Main Advantages

Simultaneous activation of both TLR7 and NOD2 induces signal amplification, thus synergistically improving the potency of such conjugated compounds. Furthermore, besides the potent immunostimulatory effects of these compounds, our *in vitro* and *in vivo* experiments also indicate that these compounds induce both humoral and cellular immune responses, with the latter being especially important for the treatment and prevention of viral infections and cancers.

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