

RC529-MDP

Chemical Properties

CAS No. :

Formula: C118H215N10O28P

Molecular Weight: 2252.99

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.

Biological Description

Description	RC529-MDP is an immunological adjuvant that couples Toll-like receptors (TLR4a) and NOD-like receptors (NOD2a) to enhance the innate immune response through the TLR4 and NOD2 signaling pathways. In mouse models, RC529-MDP induces high levels of the cytokine interleukin-related factor (IL-6), highlighting its immunostimulatory activity. Additionally, when injected into mice models with ovalbumin (OVA), RC529-MDP elevates OVA-specific antibody responses, T cell responses, and the proportion of memory T cells.
Targets(IC50)	NOD-like Receptor (NLR)
In vitro	RC529-MDP (9.3 μ M, 20 h) exhibits activity that is dependent on the TLR4 and NOD2 signaling pathways. In Raw264.7 cells, the conjugate form of RC529-MDP increases the proportion of CD80 and CD86 cells by 1.7 times compared to the mixture of RC529 + MDP, effectively promoting the maturation of antigen-presenting cells (APC).
In vivo	In laboratory mice, the RC529-MDP conjugate demonstrated a robust enhancement of IL-6 levels, increasing them by 6.8-fold and inducing a powerful synergistic effect. When administered intraperitoneally (i.p.) at a dose of 22.53 μ g, RC529-MDP significantly boosted humoral immunity and elevated levels of IgG subclasses (IgG1, IgG2a, IgG2b). Similarly, when RC529-MDP (22.53 μ g, s.c.) was co-injected with OVA in mice, there was a rapid activation of adaptive humoral immunity accompanied by an increase in cytokine-secreting T cells, leading to a strong cell-mediated immune response. Moreover, RC529-MDP (22.53 μ g) increased the proportion of central memory T cells (Tcm), generating a memory response.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	0.4439 mL	2.2193 mL	4.4385 mL
5 mM	0.0888 mL	0.4439 mL	0.8877 mL
10 mM	0.0444 mL	0.2219 mL	0.4439 mL
50 mM	0.0089 mL	0.0444 mL	0.0888 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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