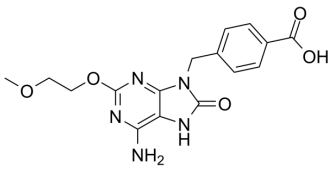
1V209

Cat. No.:	HY-115400
CAS No.:	1062444-54-5
Molecular Formula:	$C_{16}H_{17}N_5O_5$
Molecular Weight:	359.34
Target:	Toll-like Receptor (TLR)
Pathway:	Immunology/Inflammation
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 2 years -20°C 1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 83.33 mg/mL (231.90 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.7829 mL	13.9144 mL	27.8288 mL
5 mM	0.5566 mL	2.7829 mL	5.5658 mL
10 mM	0.2783 mL	1.3914 mL	2.7829 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (5.79 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (5.79 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

1V209 (TLR7 agonist T7) is a Toll-like receptor 7 (TLR7) agonist and has anti-tumor effects. 1V209 can be conjugated with various polysaccharides to improve its water solubility, and enhance its efficacy, and maintain low toxicity[1][2].

IC_{50} & Target

TLR7

In Vitro

1V209 (0.1-10 μM) treatment significantly stimulates TNFα production in RAW246.7 cells[1].
1V209 (18 hours) treatment increases IL-6 production comparain bone marrow derived dendritic cells[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

The intravenous (IV) administration of the formulation to mice bearing 4T1 breast cancer tumors results in nanoparticle

accumulation in tumors, reduction in primary tumor growth, and inhibition of lung metastases, as compared to saline-treated animals. Mice administered 1V209 experience significantly increases plasma levels of proinflammatory cytokines IL-6, IP-10, and MCP-1 at 2 h following IV administration[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Nanomedicine. 2022 Jun 18;102573.
- Bioconjug Chem. 2023 Aug 23.

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REFERENCES

[1]. Battistella C, et al. Delivery of Immunotherapeutic Nanoparticles to Tumors via Enzyme-Directed Assembly. Adv Healthc Mater. 2019 Dec;8(23):e1901105.

[2]. Shinchi H, et al. Enhancement of the Immunostimulatory Activity of a TLR7 Ligand by Conjugation to Polysaccharides. Bioconjug Chem. 2015 Aug 19;26(8):1713-23.

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