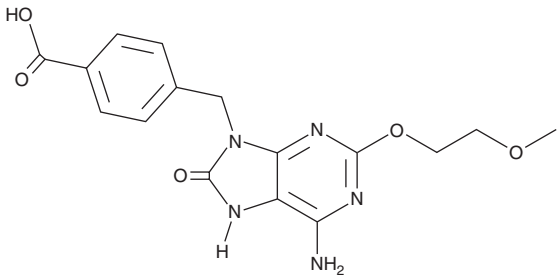
PRODUCT INFORMATION

1V209

Item No. 38318

CAS Registry No.:	1062444-54-5
Formal Name:	4-[[6-amino-7,8-dihydro-2-(2-methoxyethoxy)-8-oxo-9H-purin-9-yl]methyl]-benzoic acid
Synonyms:	TLR7 Agonist T7, Toll-Like Receptor 7 Agonist T7
MF:	$C_{16}H_{17}N_5O_5$
FW:	359.3
Purity:	≥98%
UV/Vis.:	λ_{max}: 285 nm
Supplied as:	A solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

1V209 is supplied as a solid. A stock solution may be made by dissolving the 1V209 in the solvent of choice, which should be purged with an inert gas. 1V209 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 1V209 in these solvents is approximately 10 and 0.1 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of 1V209 can be prepared by directly dissolving the solid in aqueous buffers. The solubility of 1V209 in PBS (pH 7.2) is approximately 0.1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

1V209 is a benzoic acid-modified purine that, when conjugated to polysaccharides or sterols, acts as a toll-like receptor 7 (TLR7) agonist.[1,2] A variety of 1V209-polysaccharide conjugates, but not 1V209 alone, increase TNF-α secretion from RAW 264.7 macrophages and IL-6 secretion from bone marrow-derived dendritic cells (BMDCs; EC_{50}s = 4.62-61.7 and 3.2-188 nM, respectively). Liposomes encapsulating 1V209-cholesterol conjugates decrease primary tumor weight, secondary tumor volume, and the number of secondary lung metastases, as well as increase tumor-associated $CD8^+$ IFN-γ^+ T cells and survival, in a CT26 colorectal cancer mouse model of tumor rechallenge and lung metastasis.[2]

References

1. Shinchi, H., Crain, B., Yao, S., *et al.* Enhancement of the immunostimulatory activity of a TLR7 ligand by conjugation to polysaccharides. *Bioconjug. Chem.* **26(8)**, 1713-1723 (2015).
2. Wan, D., Que, H., Chen, L., *et al.* Lymph-node-targeted cholesterolized TLR7 agonist liposomes provoke a safe and durable antitumor response. *Nano Lett.* **21(19)**, 7960-7969 (2021).

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