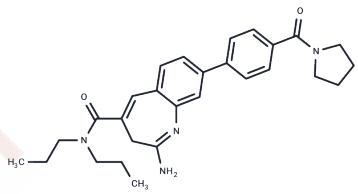
Data Sheet (Cat.No.T6898)

TargetMol

Motolimod

Chemical Properties



CAS No. : 926927-61-9

Formula: C28H34N4O2

Molecular Weight: 458.6

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	Motolimod (VTX-378) (VTX-2337) is an effective and specific Toll-like receptor (TLR) 8 agonist (EC50: 100 nM), > 50-fold selectivity over TLR7.
Targets(IC50)	TLR
In vitro	Motolimodinduces the production of both TNFα (EC50: 140 nM) and IL-12 (EC50: 120 nM) in PBMCs. In mDCs and monocytes, Motolimodspecifically induces the production of IL-12 and TNFα via NF-κB activation. Motolimodalso induces IFNγ production from NK cells, enhances the lytic function of NK cells and augments ADCC.
In vivo	In ovarian cancer mouse model, TX-2337 augments the effect of pegylated liposomal doxorubicin (PLD).
Kinase Assay	The activity of specific TLR agonists is assessed using the secretory embryonic alkaline phosphatase (SEAP) reporter gene that is linked to NF-κB activation in response to TLR stimulation. Measurement of SEAP activity using the Quanti-blue substrate (InvivoGen) after TLR agonist treatment is carried out.
Cell Research	PBMCs or purified NK cells are prepared as previously described, and the purity of NK cells was approximately 99%. NK cell-mediated cytotoxicity is assessed by Calcein-AM release from labeled target cells. In brief, PBMCs or purified NK cells are cultured for 48 hours in RPMI medium in the presence of VTX-2337 (167 or 500 nmol/L) before incubation with target cells.

Solubility Information

Solubility	H2O: < 1 mg/mL (insoluble or slightly soluble), Ethanol: 12 mg/mL (26.17 mM),Sonication is recommended. DMSO: 10.71 mg/mL (23.35 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Saline: 1.07 mg/mL (2.33 mM),Solution. 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (4.36 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may*

In vivo Formulation	*vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.1805 mL	10.9027 mL	21.8055 mL
5 mM	0.4361 mL	2.1805 mL	4.3611 mL
10 mM	0.2181 mL	1.0903 mL	2.1805 mL
50 mM	0.0436 mL	0.2181 mL	0.4361 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.

Reference

Lu H, et al. Clin Cancer Res. 2012, 18(2), 499-509.
Yang W, Sun X, Liu S, et al.TLR8 agonist Motolimod-induced inflammatory death for treatment of acute myeloid leukemia.Biomedicine & Pharmacotherapy.2023, 163: 114759.
Monk BJ, et al. J Clin Oncol 31, 2013 (suppl; abstr 3077).