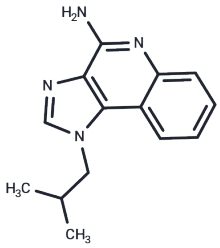
Data Sheet (Cat.No.T0134)

TargetMol

Imiquimod

Chemical Properties



CAS No. : 99011-02-6

Formula: C14H16N4

Molecular Weight: 240.30

Storage: Keep away from direct sunlight,Store at low temperature,Store under nitrogen
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	Imiquimod (R 837) is an immune response modifier and a toll-like receptor 7 (TLR7) agonist with antiviral and antitumor effects. It is used in the study of external genital warts, perianal warts, cancer, and COVID-19, and is commonly employed to induce psoriasis models.
Targets(IC50)	Autophagy,HSV,SARS-CoV,TLR
In vivo	In animal models, imiquimod stimulates the innate immune response by increasing NK cell activity, activating macrophages to secrete cytokines and nitric oxide, and inducing proliferation and differentiation of B lymphocytes. Imiquimod stimulates the innate immune response through induction, synthesis, and release of cytokines, including interferon-a (IFN-α), interleukin (IL)-6, and tumour necrosis factor (TNF)-α[1].

Solubility Information

Solubility	H2O: Insoluble, DMSO: 1 mg/mL (4.16 mM),Sonication and heating are recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.1615 mL	20.8073 mL	41.6146 mL
5 mM	0.8323 mL	4.1615 mL	8.3229 mL
10 mM	0.4161 mL	2.0807 mL	4.1615 mL
50 mM	0.0832 mL	0.4161 mL	0.8323 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

Gibson SJ, et al. Cell Immunol. 2002 Jul-Aug;218(1-2):74-86.
Wang Y, Gong N, Ma C, et al. An amphiphilic dendrimer as a light-activable immunological adjuvant for in situ cancer vaccination. Nature Communications. 2021, 12(1): 1-16.
Chen X, Chen Y, Ou Y, et al. Bortezomib inhibits NLRP3 inflammasome activation and NF-κB pathway to reduce psoriatic inflammation. Biochemical Pharmacology. 2022, 206: 115326.
Chen Y, Chen X, Liang S, et al. Chlorquinaldol inhibits the activation of nucleotide-binding oligomerization domain-like receptor family pyrin domain-containing protein 3 inflammasome and ameliorates imiquimod-induced psoriasis-like dermatitis in mice. Chemico-Biological Interactions. 2022, 365: 110122.
Zhou Y, Yang Z, Ou Y, et al.Discovery of a selective NLRP3-targeting compound with therapeutic activity in MSU-induced peritonitis and DSS-induced acute intestinal inflammation.Cellular and Molecular Life Sciences.2023, 80 (8): 230.
Zeng Y, Luo M, Yao Z, et al.Adiponectin inhibits ROS/NLRP3 inflammatory pathway through FOXO3A to ameliorate oral submucosal fibrosis.Odontology.2024: 1-15.