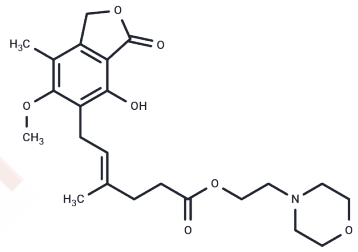
Data Sheet (Cat.No.T6293)

TargetMol

Mycophenolate Mofetil

Chemical Properties



CAS No. : 128794-94-5

Formula: C23H31NO7

Molecular Weight: 433.49

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	Mycophenolate Mofetil (TM-MMF), an immunosuppressive agent, is the 2-morpholinoethyl ester of mycophenolic acid (MPA), and an inhibitor of inosine monophosphate dehydrogenase (IMPDH).
Targets(IC50)	Apoptosis,Endogenous Metabolite,Antibacterial,Dehydrogenase,Drug Metabolite
In vitro	As an ester prodrug of the active immunosuppressant mycophenolic acid, Mycophenolate mofetil (10 μg/mL) significantly induces apoptosis in microglial cell cultures and increases the number of apoptotic cells due to activated caspase-3 immunoreactivity. At a concentration of 1 μg/mL, Mycophenolate mofetil also potently inhibits the proliferation of astrocytes and microglia. Recent studies have shown that following neuronal injury, Mycophenolate mofetil significantly reduces the extent of neuronal cell death in organotypic hippocampal slice cultures in a time-dependent manner. Mycophenolic acid inhibits the activity of both type I/II isocitrate dehydrogenase in a non-competitive, reversible, and selective manner, with IC50 values of 39 nM and 27 nM, respectively. Moreover, it concentration-dependently inhibits the proliferation of ConA-stimulated T cells (IC50 = 100 nM), lipopolysaccharide-stimulated B cells (IC50 = 120 nM), and alloantigen-specific T cell proliferation (IC50 = 51 nM).
In vivo	At a high concentration of 10 μg/mL, Mycophenolate mofetil induces significant apoptosis in microglial cell cultures and increases the number of apoptotic cells exhibiting elevated levels of activated caspase-3 immunoreactivity. Furthermore, at 1 μg/mL, it strongly inhibits the proliferation of microglia and astrocytes. Recent studies have demonstrated that Mycophenolate mofetil significantly attenuates the extent of neuronal death in organotypic hippocampal slice cultures following neuronal injury in a time-dependent manner. Mycophenolate mofetil, an active immunosuppressive ester prodrug of mycophenolic acid, exhibits non-competitive, selective, and reversible inhibition of inosine monophosphate dehydrogenase type I/II, with IC50 values of 39 nM and 27 nM, respectively. Moreover, mycophenolic acid, the immunosuppressive agent, also inhibits the proliferation of T cells stimulated by ConA, B cells stimulated by lipopolysaccharide, and allospecific T cells in a concentration-dependent manner, with IC50 of 100 nM, 120 nM, and 51 nM, respectively.

Solubility Information

Solubility	DMSO: 127 mg/mL (292.97 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 4 mg/mL (9.23 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 vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.3069 mL	11.5343 mL	23.0686 mL
5 mM	0.4614 mL	2.3069 mL	4.6137 mL
10 mM	0.2307 mL	1.1534 mL	2.3069 mL
50 mM	0.0461 mL	0.2307 mL	0.4614 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

Nakanishi T, et al. Int Immunopharmacol. 2010, 10(1), 91-97.
Zheng M, Li J, Guo H, et al.IMPDH inhibitors upregulate PD-L1 in cancer cells without impairing immune checkpoint inhibitor efficacy.Acta Pharmacologica Sinica.2024: 1-10.