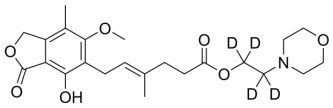
Mycophenolate Mofetil-d_4

Cat. No.:	HY-B0199S
CAS No.:	1132748-21-0
Molecular Formula:	$C_{23}H_{27}D_4NO_7$
Molecular Weight:	437.52
Target:	Apoptosis; Drug Metabolite; Endogenous Metabolite; Isotope-Labeled Compounds
Pathway:	Apoptosis; Metabolic Enzyme/Protease; Others
Storage:	4°C, sealed storage, away from moisture and light * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (114.28 mM; Need ultrasonic)
DMF : ≥ 14 mg/mL (32.00 mM)
DMSO : ≥ 10 mg/mL (22.86 mM)
Ethanol : ≥ 1.4 mg/mL (3.20 mM)
* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.2856 mL	11.4280 mL	22.8561 mL
5 mM	0.4571 mL	2.2856 mL	4.5712 mL
10 mM	0.2286 mL	1.1428 mL	2.2856 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: ≥ 2.5 mg/mL (5.71 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (5.71 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (5.71 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Mycophenolate Mofetil-d_4 is the deuterium labeled Mycophenolate Mofetil. Mycophenolate mofetil (RS 61443) is the morpholinoethylester proagent of Mycophenolic acid. Mycophenolate mofetil inhibits de novo purine synthesis via the inhibition of inosine monophosphate dehydrogenase (IMPDH). Mycophenolate mofetil shows selective lymphocyte antiproliferative effects involve both T and B cells, preventing antibody formation[1].

In Vitro	Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. Ann Pharmacother. 2019;53(2):211-216.

[2]. Simmons WD, et al. Preliminary risk-benefit assessment of mycophenolate mofetil in transplant rejection. Drug Saf. 1997;17(2):75-92.

[3]. Fulton B, et al. Mycophenolate mofetil. A review of its pharmacodynamic and pharmacokinetic properties and clinical efficacy in renal transplantation. Drugs. 1996;51(2):278-298.

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