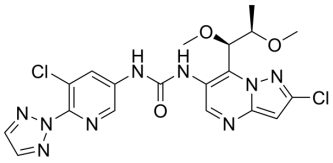
MLT-748

Cat. No.:	HY-115466
CAS No.:	1832578-30-9
Molecular Formula:	$C_{19}H_{19}Cl_2N_9O_3$
Molecular Weight:	492.32
Target:	MALT1
Pathway:	Metabolic Enzyme/Protease; NF-κB
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 2 years -20°C 1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 200 mg/mL (406.24 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.0312 mL	10.1560 mL	20.3120 mL
	5 mM	0.4062 mL	2.0312 mL	4.0624 mL
	10 mM	0.2031 mL	1.0156 mL	2.0312 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 5% DMSO >> 95% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (5.08 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (4.22 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (4.22 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (4.22 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

MLT-748 is a potent, selective and allosteric inhibitor of MALT1, binds MALT1 in the allosteric Trp580 pocket, with an IC_{50} of 5 nM[1].

IC_{50} & Target

IC50: 5 nM (MALT1)[1]
Kd: 13 nM (MALT1(329-728)-W580S), 42 nM (MALT1(329-728))[1]

In Vitro

MLT-748 reversibly binds to human mutant MALT1(329-728)-W580S (K_d, 13 nM) with affinity similar to that of the wild type MALT1(329-728) (K_d, 42 nM)[1].

MLT-748 (0-2 μM) stabilizes cellular MALT1-W580S, with an EC_{50} of 69 nM[1].

MLT-748 (2 μM, 24 hours) increases the phosphorylation of p65 and IκBα in $MALT1^{mut/mut}$ patient immortalized B cells[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Western Blot Analysis

Cell Line:	$MALT1^{mut/mut}$ patient immortalized B cells
Concentration:	2 μM
Incubation Time:	24 hours
Result:	Increased NF-κB signaling phosphorylation of both p65 and IκBα as early as 5 min after stimulation with PMA and ionomycin.

CUSTOMER VALIDATION

- J Exp Med. 2021 Oct 4;218(10):e20202280.
- Cell Signal. 2023 Jan 25;110611.

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REFERENCES

[1]. Quancard J, et al. An allosteric MALT1 inhibitor is a molecular corrector rescuing function in an immunodeficient patient. Nat Chem Biol. 2019 Mar;15(3):304-313.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA