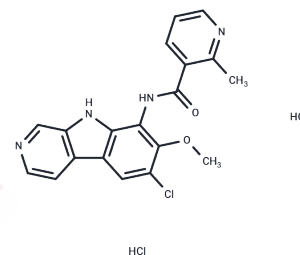


ML 120B dihydrochloride

Chemical Properties

CAS No. :	1782573-78-7
Formula:	C ₁₉ H ₁₇ Cl ₃ N ₄ O ₂
Molecular Weight:	439.72
Storage:	Keep away from moisture Powder: -20°C for 3 years In solvent: -80°C for 1 year <i>Actual storage temperature shall be subject to the COA.</i>



Biological Description

Description	ML 120B dihydrochloride is an effective ATP competitive IKK β inhibitor with oral activity, and its IC ₅₀ is 60 nM. ML 120B dihydrochloride can inhibit the growth of multiple myeloma cells and can be used in the related research of rheumatoid arthritis.
Targets(IC50)	I κ B/IKK
In vitro	In RPMI 8226 and INA6 cells, ML 120B dihydrochloride (0-20 μ M; 90 minutes) inhibits TNF- α -induced phosphorylation and degradation of I κ B and blocks TNF- α -induced phosphorylation of p65 NF- κ B [1]. ML 120B dihydrochloride inhibits the proliferation of various multiple myeloma cell lines (MM.1S, MM.1R, RPMI 8226, RPMI-LR5, RPMI-Dox40, U266, and INA6 cells) [1]. ML 120B dihydrochloride inhibits LPS-induced NF- κ B activation in RAW267.4 cells. For cells transfected with NF- κ B2-luc2, IL8-luc2, or TNF-AIP3-luc2 reporter genes, the IC50 values of ML 120B dihydrochloride were 1.4 μ M, 14.8 μ M, and 27.3 μ M, respectively [3].
In vivo	ML 120B dihydrochloride, administered orally at a dosage of 50 mg/kg twice daily for three weeks, has been shown to significantly reduce shuIL-6R, a key marker of tumor growth, in two separate studies, thereby indicating its efficacy in suppressing tumor progression. Furthermore, this treatment has demonstrated a trend towards prolonged survival in treated animals when compared to controls, suggesting its potential therapeutic benefit in oncological contexts[1][3]. Implemented in an animal model involving SCID mice implanted with human fetal bone chips and subsequently inoculated with INA6 cells, ML 120B dihydrochloride inhibited human multiple myeloma cell growth in vivo. Additionally, in a study with two-month-old female Lewis rats administered varying dosages (30 mg/kg, 10 mg/kg, 3 mg/kg, or 1 mg/kg) of ML 120B dihydrochloride orally twice daily for three weeks, it was found to protect against bone and cartilage destruction in a rat model of disease, further evidencing its potential for broader applications in disease treatment and management [2].

Solubility Information

Solubility	DMSO: 16.67 mg/mL (37.91 mM), when pH is adjusted to 8 with NaOH. Sonication and heating are recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.2742 mL	11.3709 mL	22.7417 mL
5 mM	0.4548 mL	2.2742 mL	4.5483 mL
10 mM	0.2274 mL	1.1371 mL	2.2742 mL
50 mM	0.0455 mL	0.2274 mL	0.4548 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

Hideshima T, et al. MLN120B, a novel I κ B kinase beta inhibitor, blocks multiple myeloma cell growth in vitro and in vivo. *Clin Cancer Res.* 2006 Oct 1;12(19):5887-94.

Schopf L, et al. IKKbeta inhibition protects against bone and cartilage destruction in a rat model of rheumatoid arthritis. *Arthritis Rheum.* 2006 Oct;54(10):3163-73.

Ansaldi D, et al. Imaging pulmonary NF-kappaB activation and therapeutic effects of MLN120B and TDZD-8. *PLoS One.* 2011;6(9):e25093.

Nagashima K, et al. Rapid TNFR1-dependent lymphocyte depletion in vivo with a selective chemical inhibitor of IKKbeta. *Blood.* 2006 Jun 1;107(11):4266-73.

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