Leramistat

Cat. No.: HY-156622

CAS No.: 1642602-54-7

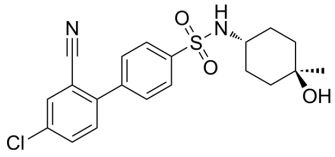
Molecular Formula: $C_{20}H_{21}ClN_2O_3S$

Molecular Weight: 404.91

Target: Mitochondrial Metabolism

Pathway: Metabolic Enzyme/Protease

Storage: 4°C, protect from light, stored under nitrogen
* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light, stored under nitrogen)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (246.97 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.4697 mL	12.3484 mL	24.6968 mL
	5 mM	0.4939 mL	2.4697 mL	4.9394 mL
	10 mM	0.2470 mL	1.2348 mL	2.4697 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 (6.17 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (6.17 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Leramistat (HMC-C-01-A; MBS2320) is a mitochondrial complex 1 inhibitor, involving in cell metabolism immune metabolism regulation. Leramistat also inhibits ATP production in Thp1 human monocytes (IC_{50}: 0.63 μM). Leramistat inhibits atopic dermatitis and other skin diseases autoimmune diseases, inflammatory diseases, cancer; and also inhibits osteoclast mediated disease[1][2][3].

IC_{50} & Target

Mitochondrial complex 1[1]

In Vitro

Leramistat has moderate stability in rat hepatocytes, with a half-life of 7 min, and in human hepatocytes, a half-life of 154 min[2].

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

REFERENCES

[1]. Pokharel MD, et al. Mitochondrial network dynamics in pulmonary disease: Bridging the gap between inflammation, oxidative stress, and bioenergetics. Redox Biol. 2024 Apr;70:103049.

[2]. Preparation of 1-methyl-4-[(4-phenylphenyl)sulfonylmethyl]cyclohexanol and 1-methyl-4-[[4-(2-pyridyl)phenyl]sulfonylmethyl]cyclohexanol compounds and their therapeutic use. World Intellectual Property Organization, WO2020035560 A1 2020-02-20.

[3]. Preparation of N-(4-hydroxy-4-methyl-cyclohexyl)-4-phenyl-benzenesulfonamides and N-(4-hydroxy-4-methyl-cyclohexyl)-4-(2-pyridyl)benzenesulfonamides and their therapeutic use. World Intellectual Property Organization, WO2014207445 A1 2014-12-31.

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