Frentizole

Cat. No.: HY-15374

CAS No.: 26130-02-9

Molecular Formula: $C_{15}H_{13}N_3O_2S$

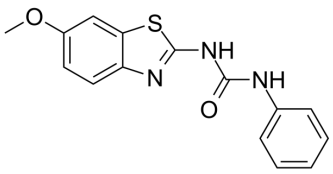
Molecular Weight: 299.35

Target: Amyloid-β

Pathway: Neuronal Signaling

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 : 12.5 mg/mL (41.76 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.3406 mL	16.7029 mL	33.4057 mL
	5 mM	0.6681 mL	3.3406 mL	6.6811 mL
	10 mM	0.3341 mL	1.6703 mL	3.3406 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: 1.25 mg/mL (4.18 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: 1.25 mg/mL (4.18 mM); Clear solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

Frentizole, an FDA-approved immunosuppressant, is a Aβ-ABAD (binding alcohol dehydrogenase) interaction inhibitor with an IC_{50} value of 200 μM. Frentizole is used in studies of diseases related to rheumatoid arthritis and systemic lupus erythematosus[1][2][3].

In Vitro

Frentizole (500 ng/mL, 48 hours) is effective in inhibiting thymidine incorporation into DNA when adds to lymphocyte cultures alongside mitogens, and significantly inhibits the response to concanavalin A by 58% in a dose-dependent manner in lymphocytes extracted from mice peritoneal cavity[1].

Frentizole (62.5 ng/mL) can effectively inhibit uridine incorporation and the inhibition of uridine incorporation is independent of the phytochemical used[1].

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

In Vivo

Frentizole (8.2 or 79.9 mg/kg/day for young mice in animal feedings, 52 weeks) can extend the life span of NZB/NZW mice[2].

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

Animal Model:	NZB/NZW mice[2]
Dosage:	8.2 or 79.9 mg/kg/day for young mice
Administration:	In animal feedings; 52 weeks
Result:	Showed that the average lifespan of young untreated mice was 38 weeks, in the low dose group the average lifespan was about 38 weeks, and in the high dose group the lifespan was significantly longer with an average lifespan of about 61 weeks. Significantly suppressed leukocyte counts, compared to a mean peripheral blood leukocyte count of 4160 in control mice, 3217 in low dose treated mice and 3450 in high dose treated mice. Significant increased in terminal neutrophil counts in young low and high dose treated mice compared to control.

REFERENCES

[1]. Meisel AD, et al. Effect of frentizole on mitogen-induced blastogenesis in human lymphocytes. J Immunopharmacol. 1979;1(4):483-95.

[2]. Walker SE, et al. Prolonged lifespans in female NZB/NZW mice treated with the experimental immunoregulatory drug frentizole. Arthritis Rheum. 1982 Nov;25(11):1291-7.

[3]. Yuli Xie, et al. Identification of small-molecule inhibitors of the Abeta-ABAD interaction. Bioorg Med Chem Lett. 2006 Sep 1;16(17):4657-60.

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