Teriflunomide

Cat. No.: HY-15405

CAS No.: 163451-81-8

Molecular Formula: $C_{12}H_9F_3N_2O_2$

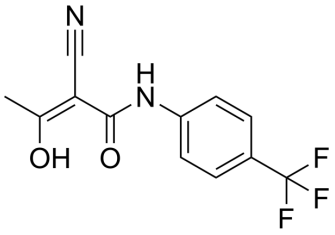
Molecular Weight: 270.21

Target: Drug Metabolite

Pathway: Metabolic Enzyme/Protease

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 33.33 mg/mL (123.35 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.7008 mL	18.5041 mL	37.0083 mL
5 mM	0.7402 mL	3.7008 mL	7.4017 mL
10 mM	0.3701 mL	1.8504 mL	3.7008 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 (9.25 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (9.25 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Teriflunomide is the active metabolite of leflunomide, an approved therapy for rheumatoid arthritis. It inhibits pyrimidine synthesis and therefore potently decreases T cell and B cell proliferation.

In Vitro

Teriflunomide primarily acts as an inhibitor of dihydroorotate dehydrogenase (DHODH), a key mitochondrial enzyme involved in the de novo synthesis of pyrimidines in rapidly proliferating cells. By reducing the activity of high-avidity proliferating T lymphocytes and B lymphocytes, teriflunomide likely attenuates the inflammatory response to autoantigens in MS. Thus, teriflunomide can be considered a cytostatic rather than a cytotoxic drug to leukocytes[1].

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

In Vivo

Teriflunomide has demonstrated beneficial effects in two independent animal models of demyelinating disease. In the dark

agouti rat model of experimental autoimmune encephalitis (EAE), teriflunomide administration results in clinical, histopathological, and electrophysiological evidence of efficacy both as a prophylactic and therapeutic agent. Similarly, in the female Lewis rat model of EAE, teriflunomide administration results in beneficial prophylactic and therapeutic clinical effects, with a delay in disease onset and symptom severity[1].

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

CUSTOMER VALIDATION

- Cell Stem Cell. 2021 Aug 21;S1934-5909(21)00296-4.
- Cell Rep. 2023 Aug 18;42(8):113016.
- Biomed Pharmacother. 2019 Oct;118:109305.
- J Med Chem. 2021 Sep 13.
- CNS Neurosci Ther. 2023 Mar 21.

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REFERENCES

[1]. Oh J, et al. An update of teriflunomide for treatment of multiple sclerosis. Ther Clin Risk Manag. 2013;9:177-90.

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