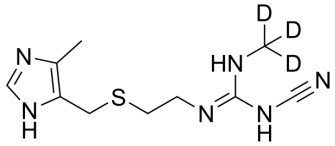
Cimetidine-d_3

Cat. No.:	HY-14289S
CAS No.:	1185237-29-9
Molecular Formula:	$C_{10}H_{13}D_3N_6S$
Molecular Weight:	255.36
Target:	Histamine Receptor
Pathway:	GPCR/G Protein; Immunology/Inflammation; Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Cimetidine-d_3 is the deuterium labeled Cimetidine. Cimetidine (SKF-92334) is an orally active and inverse histamine H2 receptor antagonist with a Ki of 0.6 μM. Cimetidine is an inverse agonist. Cimetidine has anti-cancer and anti-inflammatory activity[1][2][5].
IC_{50} & Target	H_2 Receptor
In Vitro	Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs[1]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. Ann Pharmacother. 2019;53(2):211-216.

[2]. M J Smit, et al. Inverse agonism of histamine H2 antagonist accounts for upregulation of spontaneously active histamine H2 receptors. Proc Natl Acad Sci U S A. 1996 Jun 25;93(13):6802-7.

[3]. Takahashi, H.K., et al., Cimetidine induces interleukin-18 production through H2-agonist activity in monocytes. Mol Pharmacol, 2006. 70(2): p. 450-3.

[4]. Sprowl, J.A., et al., Conjunctive therapy of cisplatin with the OCT2 inhibitor cimetidine: influence on antitumor efficacy and systemic clearance. Clin Pharmacol Ther, 2013. 94(5): p. 585-92.

[5]. Zheng, Y., et al., Cimetidine suppresses lung tumor growth in mice through proapoptosis of myeloid-derived suppressor cells. Mol Immunol, 2013. 54(1): p. 74-83.

[6]. Fukuda, M., K. Kusama, and H. Sakashita, Cimetidine inhibits salivary gland tumor cell adhesion to neural cells and induces apoptosis by blocking NCAM expression. BMC Cancer, 2008. 8: p. 376.

[7]. Longhini, R., et al., Cimetidine Reduces the Alveolar Bone Loss in Induced Periodontitis in Rat Molars. J Periodontol, 2013.

Caution: Product has not been fully validated for medical applications. For research use only.

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