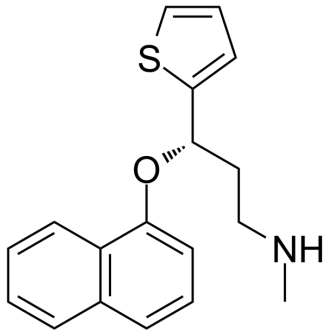
Duloxetine

Cat. No.:	HY-B0161
CAS No.:	116539-59-4
Molecular Formula:	$C_{18}H_{19}NOS$
Molecular Weight:	297.41
Target:	Serotonin Transporter
Pathway:	Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Duloxetine is a serotonin-norepinephrine reuptake inhibitor with a K_i of 4.6 nM, used for treatment of major depressive disorder and generalized anxiety disorder (GAD)[1][2].
In Vitro	Duloxetine ((S)-Duloxetine) inhibits the reuptake of serotonin and norepinephrine in the central nervous system. Duloxetine is also considered a less potent inhibitor of dopamine reuptake. However, duloxetine has no significant affinity for dopaminergic, adrenergic, cholinergic, histaminergic, opioid, glutamate, and GABA receptors and can therefore be considered to be a selective reuptake inhibitor at the 5-HT and NA transporters. Duloxetine undergoes extensive metabolism, but the major circulating metabolites do not contribute significantly to the pharmacologic activity. Major depressive disorder is believed to be due in part to an increase in pro-inflammatory cytokines within the central nervous system. Antidepressants including ones with a similar mechanism of action as duloxetine, i.e. serotonin metabolism inhibition, cause a decrease in proinflammatory cytokine activity and an increase in anti-inflammatory cytokines; this mechanism may apply to duloxetine in its effect on depression but research on cytokines specific to duloxetine therapy is lacking[1]. The analgesic properties of duloxetine in the treatment of diabetic neuropathy and central pain syndromes such as fibromyalgia are believed to be due to sodium ion channel blockade[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Autism Res. 2021 Oct 3.
- Neurotox Res. 2020 Dec;38(4):859-870.
- Neurosci Lett. 2022 Mar 16;773:136512.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. De Berardis, D., et al., The effect of newer serotonin-noradrenalin antidepressants on cytokine production: a review of the current literature. Int J Immunopathol Pharmacol, 2010. 23(2): p. 417-22.

[2]. Wang, S.Y., J. Calderon, and G. Kuo Wang, Block of neuronal Na+ channels by antidepressant duloxetine in a state-dependent manner. Anesthesiology, 2010. 113(3): p. 655-65.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA