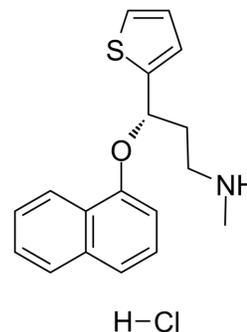


Duloxetine hydrochloride

Cat. No.:	HY-B0161A
CAS No.:	136434-34-9
Molecular Formula:	C ₁₈ H ₂₀ ClNOS
Molecular Weight:	334
Target:	Serotonin Transporter
Pathway:	Neuronal Signaling
Storage:	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 100 mg/mL (299.40 mM)
 H₂O : 5 mg/mL (14.97 mM; Need ultrasonic)
 * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	2.9940 mL	14.9701 mL	29.9401 mL
	5 mM	0.5988 mL	2.9940 mL	5.9880 mL
	10 mM	0.2994 mL	1.4970 mL	2.9940 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

- Add each solvent one by one: PBS
Solubility: 140 mg/mL (419.16 mM); Clear solution; Need ultrasonic
- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
Solubility: ≥ 2.5 mg/mL (7.49 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: ≥ 2.5 mg/mL (7.49 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
Solubility: ≥ 2.5 mg/mL (7.49 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Duloxetine hydrochloride ((S)-Duloxetine hydrochloride) is a serotonin-norepinephrine reuptake inhibitor (SNRI) 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 hydrochloride) (sold under the brand names Cymbalta, Aricclaim, Xeristar, Yentreve, Duzela, Dulane) is a serotonin-norepinephrine reuptake inhibitor (SNRI) manufactured and marketed by Eli Lilly. It is prescribed for

major depressive disorder and generalized anxiety disorder (GAD). Duloxetine also has approval for use in osteoarthritis and musculoskeletal pain. Duloxetine failed the US approval for stress urinary incontinence amidst concerns over liver toxicity and suicidal events; however, it was approved for this indication in Europe, where it is recommended as an add-on medication in stress urinary incontinence instead of surgery. It can also relieve the symptoms of painful peripheral neuropathy, particularly diabetic neuropathy, and it is used to control the symptoms of fibromyalgia. The main uses of duloxetine are in major depressive disorder, general anxiety disorder, stress urinary incontinence, painful peripheral neuropathy, fibromyalgia, and chronic musculoskeletal pain associated with osteoarthritis and chronic lower back pain. It is being studied for various other indications^{[1][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.

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REFERENCES

[1]. Redrobe JP, et al. Dose-dependent noradrenergic and serotonergic properties of venlafaxine in animal models indicative of antidepressant activity. *Psychopharmacology (Berl)*. 1998 Jul;138(1):1-8.

[2]. Deecher DC, et al. Desvenlafaxine succinate: A new serotonin and norepinephrine reuptake inhibitor. *J Pharmacol Exp Ther*. 2006 Aug;318(2):657-65. Epub 2006 May 4.

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

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