

Product Data Sheet

Product Name: Duloxetine-d7

Cat. No.: GF13835

Chemical Properties

Cas. No. 919514-01-5

Formula C₁₈H₁₂D₇NOS

M.Wt 304.46

Solubility

Storage 2-8°C, sealed storage, away from moisture

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure



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

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Background

Duloxetine-d7 ((S)-Duloxetine-d7) is the deuterium labeled Duloxetine. 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].

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].

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

[2]. 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.

[3]. 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.

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