

Product Data Sheet

Product Name: Nurr1/RXR agonist 1

Cat. No.: GC81691

Chemical Properties

Cas. No. 2231746-53-3

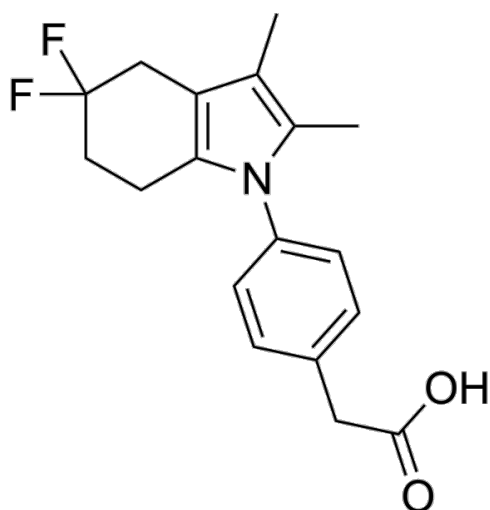
Formula $C_{18}H_{19}F_2NO_2$ M.Wt 319.35

Solubility DMSO: 100 mg/mL (313.14 mM; Need ultrasonic) Storage Store at 4°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



Background

Nurr1/RXR dual agonist 1 is a dual activator of Nurr1 (EC₅₀ = 2.6 μM) and RXR with K_i of 0.6 and 1.1 μM, respectively. Nurr1/RXR dual agonist 1 exclusively activates the heterodimer response element DR5 by selectively destabilizing the Nurr1 homodimer and stabilizing the Nurr1:RXR heterodimer. Nurr1/RXR dual agonist 1 enhances expression of a specific subset of neuroprotective Nurr1 target genes while avoiding induction of genes associated with potential off-target effects in

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Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

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neuronal cells. Nurr1/RXR dual agonist 1 can be used for neurodegenerative diseases research [1].

In Vitro, Nurr1/RXR agonist 1 (compound 2) (15 h) induces a considerable 3.3-fold activation of Nurr1, with both Nurr1 and RXR involved^[1]. Nurr1/RXR dual agonist 1 (30 μ M) diminishes Nurr1 homodimer formation while leaving the Nurr1:RXR heterodimer intact^[1]. Nurr1/RXR agonist 1 (0.3-30 μ M) enhances DR5-dependent transcription but does not activate NBRE or NurRE^[1]. Nurr1/RXR agonist 1 (0.3-30 μ M, 24 h) exhibits no toxic effect in HEK293T cells^[1]. Nurr1/RXR agonist 1 (10 μ M, 21 h) achieves differential modulation or functional selectivity in activating downstream gene expression programs in rat dopaminergic neurons^[1]. Nurr1/RXR agonist 1 induces genes that have a higher empirical probability of containing DR5 elements in their promoter regions^[1].

References:

[1]. Scholz K, et al. Dual Nurr1/RXR agonism of valerenic acid and synthetic mimetics enables dimer-selective Nurr1 modulation. ACS Med Chem Lett. 2026 Jan 8;17(1):170-174.

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