

Product Data Sheet

Product Name: PF-04449613

Cat. No.: GC47939

Chemical Properties

Cas. No. 1236858-52-8

SMILES O=C1N=C([C@@H](C)N2CC(OC3=CC=CC=C3)C2)NC4=C1C=NN4C5CCOCC5

Formula C₂₁H₂₅N₅O₃

M.Wt 395.5

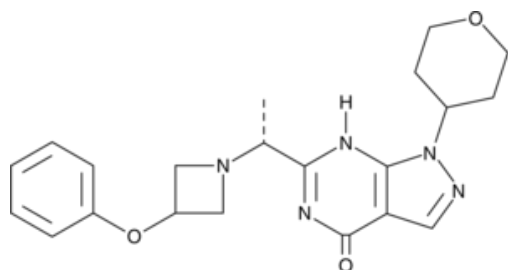
Solubility DMSO: 10 mg/ml

Storage Store at -20°C

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

PF-04449613 is a phosphodiesterase 9A (PDE9A) inhibitor (IC₅₀ = 22 nM).¹ It is selective for PDE9A over PDE1C (IC₅₀ = >1,000 nM), as well as over a variety of other PDEs, inhibiting PDE2-8, -10, and -11 activity by less than 30% in a panel of enzymes, ion channels, and transporters at 1 μM but does inhibit the human dopamine transporter (DAT; K_i = 293 nM). PF-04449613 (0.1-100 mg/kg, s.c.) increases cerebrospinal fluid (CSF) levels of cyclic GMP (cGMP) in rats. Subcutaneous administration of PF-04449613 (10 mg/kg) increases the rate of dendritic spine formation and elimination in mouse primary motor cortex pyramidal neurons *in vivo*.² It increases the average running speed of mice in an accelerating rotarod task, indicating improved motor learning, at the same dose.

1. Claffey, M.M., Helal, C.J., Verhoest, P.R., et al. Application of structure-based drug design and

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

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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parallel chemistry to identify selective, brain penetrant, in vivo active phosphodiesterase 9A inhibitors J. Med. Chem. 55(21)9055-9068(2012) 2. Lai, B., Li, M., Hu, A., et al. The phosphodiesterase 9 inhibitor PF-04449613 promotes dendritic spine formation and performance improvement after motor learning Dev. Neurobiol. 78(9)859-872(2018)

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