

PRODUCT INFORMATION



PF-04449613

Item No. 30946

CAS Registry No.: 1236858-52-8
Formal Name: 1,5-dihydro-6-[(1R)-1-(3-phenoxy-1-azetidiny)ethyl]-1-(tetrahydro-2H-pyran-4-yl)-4H-pyrazolo[3,4-d]pyrimidin-4-one

MF: C₂₁H₂₅N₅O₃

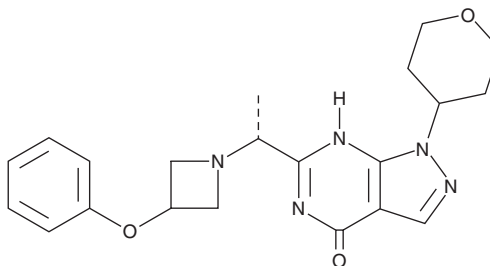
FW: 395.5

Purity: ≥98%

Supplied as: A solid

Storage: -20°C

Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

PF-04449613 is supplied as a solid. A stock solution may be made by dissolving the PF-04449613 in the solvent of choice, which should be purged with an inert gas. PF-04449613 is soluble in the organic solvent DMSO at a concentration of approximately 10 mg/ml.

Description

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.

References

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

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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