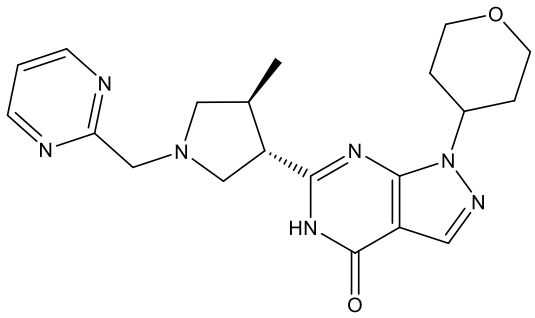
Catalog # 10-4365

PF-04447943

CAS# 1082744-20-4

6-[(3*S*,4*S*)-4-Methyl-1-(pyrimidin-2-ylmethyl)pyrrolidin-3-yl]-1-(oxan-4-yl)-5*H*-pyrazolo[5,4-d]pyrimidin-4-one; Edelinontrine

Lot # FBS5034



PF-04447943 is a potent (IC_{50} = 8.3 nM) and selective inhibitor of phosphodiesterase 9A (PDE9A) that increases cGMP levels and displays procognitive activity in mice.[1,2] It displayed efficacy in the BACHD rat model of Huntington's disease but not the Q175 mouse model.[3] Also reduced the number and size of blood cell aggregates in patients with stable sickle cell disease.[4] PF-04447943 attenuated DSS-induced colitis by suppressing oxidative stress, inflammation, and regulating T-cell polarization.[5]

1) Verhoest *et al.* (2012), *Design and discovery of 6-[(3S,4S)-4-methyl-1-(pyrimidin-2-ylmethyl)pyrrolidin-3-yl]-1-(tetrahydro-2H-pyran-4-yl)-1,5-dihydro-4H-pyrazolo[3,4-d]pyrimidin-4-one (PF-04447943), a selective brain penetrant PDE9A inhibitor for the treatment of cognitive disorders*; J. Med. Chem. **55** 9045
2) Hutson *et al.* (2011), The selective phosphodiesterase 9 (PDE9) inhibitor PF-04447943 (*6-[(3S,4S)-4-methyl-1-(pyrimidin-2-ylmethyl)pyrrolidin-3-yl]-1-(tetrahydro-2H-pyran-4-yl)-1,5-dihydro-4H-pyrazolo[3,4-d]pyrimidin-4-one) enhances synaptic plasticity and cognitive function in rats;* Neuropharmacology **61** 665
3) Nagy *et al.* (2015), *Application of neurophysiological biomarkers for Huntington's disease: evaluating a phosphodiesterase 9 inhibitor;* Exp. Neurol. **263** 122
4) Charnigo *et al.* (2019), *PF-04447943, A phosphodiesterase 9A Inhibitor, in Stable Sickle Cell Disease Patients: A Phase 1B Randomized, Placebo-Controlled Study;* Clin. Transl. Sci. **12** 180
5) Rana *et al.* (2021), *PDE9 Inhibitor PF-04447943 Attenuates DSS-Induced Colitis by Suppressing Oxidative Stress, Inflammation, and Regulating T-Cell Polarization;* Front. Pharmacol. **12** 643215

PHYSICAL DATA

Molecular Weight:	395.47
Molecular Formula:	$C_{20}H_{25}N_7O_2$
Purity:	>98% by HPLC
	NMR: (Conforms)
Solubility:	DMSO (50 mg/ml)
Physical Description:	White solid
Storage and Stability:	Store as supplied at -20°C for up to 2 years from the date of purchase. Solutions in DMSO may be stored at -20°C for up to 3 months.

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