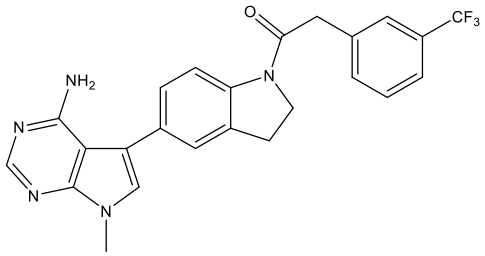
Catalog # 10-4716
GSK2606414

CAS# 1337531-36-8

1-[5-(4-Amino-7-methylpyrrolo[2,3-d]pyrimidin-5-yl)-2,3-dihydroindol-1-yl]-2-[3-(trifluoromethyl)phenyl]ethenone; 7-methyl-5-(1-{[3-(trifluoromethyl)phenyl]acetyl}-2,3-dihydro-1H-indol-5-yl)-7H-pyrrolo[2,3-d]pyrimidine-4-amine

Lot # FBS3055



GSK2606414 is a potent (IC_{50} = 0.4 nM) and selective (against a panel of 294 kinases) inhibitor of protein kinase R-like endoplasmic reticulum kinase (PERK), an important effector of the unfolded protein response (UPR).[1] It prevented neurodegeneration in a mouse model of frontotemporal dementia[2] and rodent models of Parkinsons disease *via* modulation of the UPR[3]. GSK2606414 has been reported to be a potent inhibitor of RIPK1 (IC_{50} = 18 nM).[4] It has also displayed neuroprotective effects in various models of stroke.[5-7]

1) Axten *et al*. (2012), *Discovery of 7-methyl-5-(1-{[3-(trifluoromethyl)phenyl]acetyl}-2,3-dihydro-1H-indol-5-yl)-7H-pyrrolo[2,3-d]pyrimidine-4-amine (GSK2606414)*; J. Med. Chem., **55** 7193
2) Radford *et al*. (2015), *PERK inhibition prevents tau-mediated neurodegeneration in a mouse model of frontotemporal dementia*; Acta Neuropathol., **130** 633
3) Mercado *et al*. (2018), *Targeting PERK signaling with the small molecules GSK2606414 prevents neurodegeneration in a model of Parkinson's disease*; Neurobiol. Dis., **112** 136
4) Rojas-Rivera *et al*. (2017), *When PERK inhibitors turn out to be new potent RIPK1 inhibitors: critical issues on the specificity and use of GSK2606414 and GSK2656157*; Cell Death Differ., **24** 1100
5) Yan *et al*. (2017), *Pharmacological Inhibition of PERK Attenuates Early Brain Injury After Subarachnoid Hemorrhage in Rats Through the Activation of Akt*; Mol. Neurobiol., **54** 1808
6) Meng *et al*. (2018), *PERK Pathway Activation Promotes Intracerebral Hemorrhage Induced Secondary Brain Injury by Inducing Apoptosis Both in Vivo and in Vitro*; Front. Neurosci., **12** 111
7) Dhir *et al*. (2023), *PERK inhibitor, GSK2606414, ameliorates neuropathological damage, memory and motor functional impairments in cerebral ischemia via PERK/p-eIFα/ATP/CHOP signaling*; Metab. Brain Dis., online ahead of print

PHYSICAL DATA

Molecular Weight:	451.44
Molecular Formula:	$C_{24}H_{20}F_3N_5O$
Purity:	98% by HPLC
	NMR: (Conforms)
Solubility:	DMSO (>25 mg/ml)
Physical Description:	Off-white solid
Storage and Stability:	Store as supplied desiccated 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.

Materials provided by Focus Biomolecules are for laboratory research use only and are not intended for human or veterinary applications.

Focus Biomolecules LLC 400 Davis Drive, Suite 600 Plymouth Meeting PA 19462
www.focusbiomolecules.com