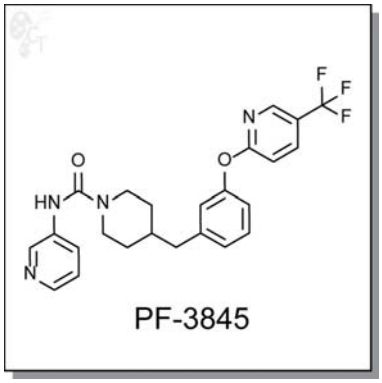
Cellagen Technology

Product Specification Sheet

Product Name: PF-3845

Catalog Number: C7384



Technical information:

Chemical Formula:	$C_{24}H_{23}F_3N_4O_2$
CAS #:	1196109-52-0
Molecular Weight:	456.46
Purity:	> 98%
Appearance:	White solid
Solubility:	Soluble in DMSO up to 100 mM
Chemical Name:	4-(3-(5-(trifluoromethyl)pyridin-2-yloxy)benzyl)-N-(pyridin-3-yl)piperidine-1-carboxamide
Storage:	Store solid powder at 4°C desiccated; Store DMSO solution at -20°C.
Shelf Life:	In the unopened package, powder is stable for 1 year and DMSO solution is stable for 6 months under proper storage condition.

Handling:

- To make 10 mM stock solution, add 0.219mL of DMSO for each mg of PF-3845.
- For DMSO solution, briefly spin the vial at 500 rpm in a 50 mL conical tube to ensure maximum sample recovery.

Biological Activity:

PF-3845 is an orally-available, covalent and irreversible inhibitor of fatty acid amide hydrolase (FAAH) for the treatment of inflammation and pain, with an IC50 of 7.2 nM. [1] Mechanistic studies show that PF-3845 is a time-dependent inhibitor that carbamylates FAAH's catalytic serine nucleophile and raises anandamide levels in the brain for up to 24h. [2, 3]

Oral administration of PF-3845 produces antinociceptive effects in both inflammatory and noninflammatory pain models in rats with an MED 0.1 mg/kg. [2] Furthermore, oral administration of PF-3845 at 0.1 mg/kg results in efficacy comparable to that of naproxen at 10 mg/kg in a rat inflammatory pain model. [1]

Regarding the encannabinoid system, PF-3845 has been shown to be an effective treatment (i.p.) for the blockade of neuronal FAAH to reverse allodynia through the activation of both cannabinoid receptors, without the psychomimetic side effects associated with THC. [4]

Reference:

1. Johnson et al., Discovery of PF-04457845: A Highly Potent, Orally Bioavailable, and Selective Urea FAAH Inhibitor. ACS Med. Chem. Lett. 2011, 2, 91-96. Pubmed ID: 21666860
2. Ahn et al., Mechanistic and pharmacological characterization of PF-04457845: a highly potent and selective fatty acid amide hydrolase inhibitor that reduces inflammatory and noninflammatory pain. J. Pharmcol. Exp. Ther. 2011, 338 (1), 114-124. Pubmed ID: 21505060
3. Ahn et al., Discovery and characterization of a highly selective FAAH inhibitor that reduces inflammatory pain. Chem. Biol. 2009, 16(4), 411-420. Pubmed ID: 19389627
4. Booker et al., The fatty acid amide hydrolase (FAAH) inhibitor PF-3845 acts in the nervous system to reverse LPS-induced tactile allodynia in mice. Br. J. Pharmacol. 2012, 165(8), 2485-2496. Pubmed ID: 21506952

To reorder: http://www.cellagentech.com/PF-3845/

For Technical Support: technical@cellagentech.com

Chemicals are sold for research use only, not for clinical or diagnostic use.