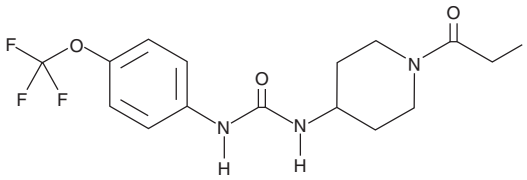
PRODUCT INFORMATION

TPPU

Item No. 11120

CAS Registry No.:	1222780-33-7
Formal Name:	N-[1-(1-oxopropyl)-4-piperidinyl]-N'-[4-(trifluoromethoxy)phenyl]-urea
MF:	$C_{16}H_{20}F_3N_3O_3$
FW:	359.3
Purity:	≥98%
UV/Vis.:	λ_{max}: 241 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥2 years



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

Laboratory Procedures

TPPU is supplied as a crystalline solid. A stock solution may be made by dissolving the TPPU in the solvent of choice, which should be purged with an inert gas. TPPU is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of TPPU in these solvents is approximately 5, 12.5, and 15 mg/ml, respectively.

TPPU is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, TPPU should first be dissolved in DMF and then diluted with the aqueous buffer of choice. TPPU has a solubility of approximately 0.1 mg/ml in a 1:9 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Soluble epoxide hydrolase (sEH) converts epoxides to their corresponding diols. Inhibitors of sEH have anti-inflammatory, anti-hypertensive, neuroprotective, and cardioprotective effects.[1,2] TPPU is a potent inhibitor of both human and mouse sEH (IC_{50} = 3.7 and 2.8 nM, respectively).[3] The pharmacokinetics of this compound are dramatically superior to those of the 1-adamantylurea based inhibitors, like AUDA.[3,4]

References

1. Schmelzer, K.R., Kubala, L., Newman, J.W., *et al.* Soluble epoxide hydrolase is a therapeutic target for acute inflammation. *Proc. Natl. Acad. Sci. USA* **102(28)**, 9772-9777 (2005).
2. Yu, Z., Xu, F., Huse, L.M., *et al.* Soluble epoxide hydrolase regulates hydrolysis of vasoactive epoxyeicosatrienoic acids. *Circ. Res.* **87(11)**, 992-998 (2000).
3. Rose, T.E., Morisseau, C., Liu, J.Y., *et al.* 1-aryl-3-(1-acylpiperidin-4-yl)urea inhibitors of human and murine soluble epoxide hydrolase: Structure-activity relationships, pharmacokinetics, and reduction of inflammatory pain. *J. Med. Chem.* **53(19)**, 7067-7075 (2010).
4. Tsai, H.J., Hwang, S.H., Morisseau, C., *et al.* Pharmacokinetic screening of soluble epoxide hydrolase inhibitors in dogs. *Eur. J. Pharm. Sci.* **40(3)**, 222-238 (2010).

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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