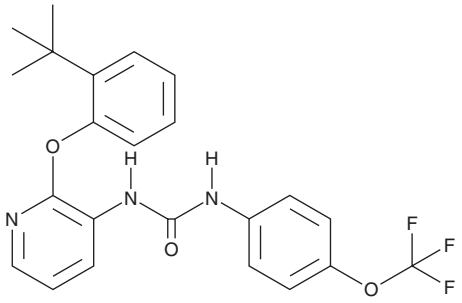
PRODUCT INFORMATION

BPTU

Item No. 29444

CAS Registry No.:	870544-59-5
Formal Name:	N-[2-[2-(1,1-dimethylethyl) phenoxy]-3-pyridinyl]-N'-[4-(trifluoromethoxy)phenyl]-urea
MF:	$C_{23}H_{22}F_3N_3O_3$
FW:	445.4
Purity:	≥98%
UV/Vis.:	λ_{max}: 260, 288 nm
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

BPTU is supplied as a solid. A stock solution may be made by dissolving the BPTU in the solvent of choice, which should be purged with an inert gas. BPTU is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of BPTU in ethanol and DMF is approximately 15 mg/ml and approximately 25 mg/ml in DMSO.

BPTU is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, BPTU should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. BPTU has a solubility of approximately 0.3 mg/ml in a 1:2 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

BPTU is an allosteric antagonist of the purinergic $P2Y_1$ receptor (K_i = 6 nM for the human receptor).[1,2] BPTU is selective for $P2Y_1$ over $P2Y_2$, $P2Y_6$, $P2Y_{11}$, $P2Y_{12}$, and $P2Y_{14}$ receptors (K_is = ≥3,500 nM).[1] It inhibits platelet aggregation in human platelet-rich plasma (hPRP; IC_{50} = 2.1 µM). BPTU reduces thrombus weight by 68% in a rat model of iron chloride-induced arterial thrombosis and prolongs provoked cuticle and mesenteric bleeding time in rats when administered intravenously as a 10 mg/kg bolus dose followed by a 10 mg/kg per hour infusion. It also inhibits contractions induced by electrical field stimulation in isolated muscle strips from rat and mouse colon (EC_{50}s = 0.5 and 0.1 µM, respectively) and antrum (EC_{50}s = 9 and 0.3 µM, respectively).[2]

References

1. Chao, H., Turdi, H., Herpin, T.F., *et al.* Discovery of 2-(phenoxypyridine)-3-phenylureas as small molecule $P2Y_1$ antagonists. *J. Med. Chem.* **56(4)**, 1704-1714 (2013).
2. Mañé, N., Jiménez-Sábado, V., and Jiménez, M. BPTU, an allosteric antagonist of $P2Y_1$ receptor, blocks nerve mediated inhibitory neuromuscular responses in the gastrointestinal tract of rodents. *Neuropharmacology* **110(Pt A)**, 376-385 (2016).

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