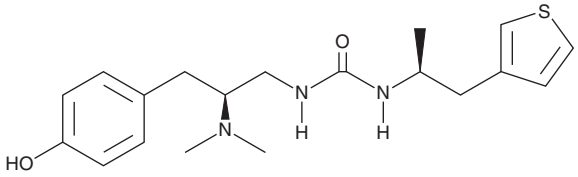
PRODUCT INFORMATION

PZM21

Item No. 20576

CAS Registry No.:	1997387-43-5
Formal Name:	N-[(2S)-2-(dimethylamino)-3-(4-hydroxyphenyl)propyl]-N'-[(1S)-1-methyl-2-(3-thienyl)ethyl]-urea
MF:	$C_{19}H_{27}N_3O_2S$
FW:	361.5
Purity:	≥95%
UV/Vis.:	λ_{max}: 229, 281 nm
Supplied as:	A crystalline 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

PZM21 is supplied as a crystalline solid. A stock solution may be made by dissolving the PZM21 in the solvent of choice, which should be purged with an inert gas. PZM21 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of PZM21 in ethanol and DMF is approximately 10 mg/ml and approximately 1 mg/ml in DMSO.

PZM21 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, PZM21 should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. PZM21 has a solubility of approximately 0.2 mg/ml in a 1:4 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

PZM21 is a μ-opioid receptor agonist (K_i = 1.1 nM).[1] It is selective for μ- over κ- and δ-opioid receptors (K_is = 18 and 506 nM, respectively). PZM21 induces $G_{i/o}$ signaling (EC_{50} = 4.6 nM in HEK293T cells expressing human receptors) but has no detectable activity in a β-arrestin2 recruitment assay. *In vivo*, PZM21 (10, 20, and 40 mg/kg) induces analgesia in the hot plate test and reduces formalin-induced paw licking in mice when administered at a dose of 40 mg/kg.

Reference

1. Manglik, A., Lin, H., Aryal, D.K., *et al.* Structure-based discovery of opioid analgesics with reduced side effects. *Nature* **537(7619)**, 185-190 (2016).

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