Print Date: Apr 29th 2021

Certificate of Analysis

www.tocris.com

Product Name: **PZM21** **Catalog No.: 7218** **Batch No.: 1**

CAS Number: 1997387-43-5

IUPAC Name: *N*-[(2*S*)-2-(Dimethylamino)-3-(4-hydroxyphenyl)propyl]-*N*'-[(1*S*)-1-methyl-2-(3-thienyl)ethyl]urea

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{19}H_{27}N_3O_2S$.

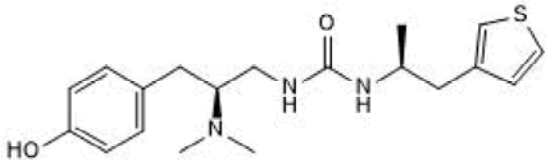
Batch Molecular Weight: 361.5

Physical Appearance: Pale yellow solid

Solubility: DMSO to 100 mM
ethanol to 100 mM

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.7% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	63.13	7.53	11.62
Found	62.95	7.58	11.67

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

bio-techne.com
info@bio-techne.com
techsupport@bio-techne.com

North America
Tel: (800) 343 7475

China
info.cn@bio-techne.com
Tel: +86 (21) 52380373

Europe Middle East Africa
Tel: +44 (0)1235 529449

Rest of World
www.tocris.com/distributors
Tel:+1 612 379 2956

Product Name: **PZM21** **Catalog No.: 7218** **Batch No.: 1**

CAS Number: 1997387-43-5

IUPAC Name: *N*-[(2*S*)-2-(Dimethylamino)-3-(4-hydroxyphenyl)propyl]-*N'*-[(1*S*)-1-methyl-2-(3-thienyl)ethyl]urea

Description:

PZM21 is a selective μ receptor agonist (EC_{50} = 4.6 nM). PZM21 has been reported to exhibit bias for the G_i signaling pathway over arrestin-3. The compound exhibits 500-fold selectivity for μ over δ receptors and no detectable activity at κ or nociceptin receptors and a panel of 316 other GPCRs. PZM21 induces analgesia in a mouse hot plate assay, but not a tail-flick assay and exhibits no significant conditioned place preference response in in vivo assays. CNS penetrant.

Physical and Chemical Properties:

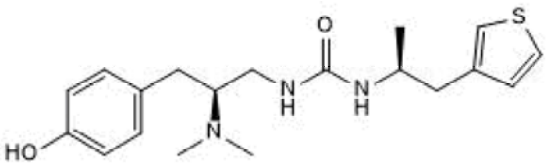
Batch Molecular Formula: $C_{19}H_{27}N_3O_2S$.

Batch Molecular Weight: 361.5

Physical Appearance: Pale yellow solid

Minimum Purity: ≥98%

Batch Molecular Structure:



Storage: Store at -20°C

Solubility & Usage Info:

DMSO to 100 mM
ethanol to 100 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Hill *et al* (2018) The novel μ-opioid receptor agonist PZM21 depresses respiration and induces tolerance to antinociception. Br.J.Pharmacol. ***175*** 2653. PMID: 29582414.

Manglik *et al* (2016) Structure-based discovery of opioid analgesics with reduced side effects. Nature ***537*** 185. PMID: 27533032.