Print Date: Mar 3rd 2022

Certificate of Analysis

www.tocris.com

Product Name: **Pridopidine** **Catalog No.: 7630** **Batch No.: 1**

CAS Number: 346688-38-8

IUPAC Name: 4-[3-(Methylsulfonyl)phenyl]-1-propylpiperidine

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{15}H_{23}NO_2S$.

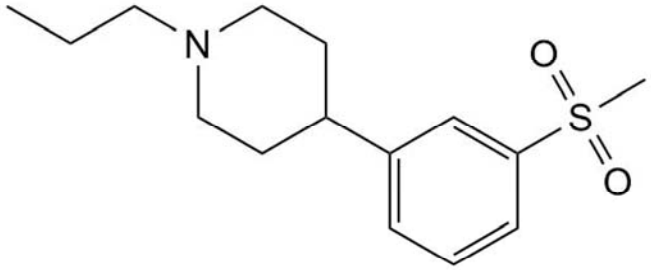
Batch Molecular Weight: 281.42

Physical Appearance: Beige solid

Solubility: DMSO to 100 mM
ethanol to 100 mM

Storage: Store at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 98.7% purity

^{1}H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen
Theoretical	64.02	8.24	4.98
Found	63.98	8.29	4.98

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Product Information

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IUPAC Name: 4-[3-(Methylsulfonyl)phenyl]-1-propylpiperidine

Description:

Pridopidine is a selective high affinity σ-1 receptor (S1R) agonist (Ki = 7.1 nM in both HEK293 cells and rat striatal membranes). Pridopidine displays ~30-fold and ~100-fold selectivity over the dopamine D_3 receptor and the D_2 receptor, respectively. Pridopidine is a low affinity dopamine D_2 receptor antagonist (Ki (low) = 17.5 μM; Ki (high) = 7.5 μM). Pridopidine upregulates gene expression induced by BDNF in rat striatum in vivo in an S1R-dependent manner. Pridopidine improves motor function and shows neuroprotective effects in Huntington's disease animal models. Pridopidine restores neuromuscular junction activity in a... Please see product specific page on www.tocris.com for full description.

Physical and Chemical Properties:

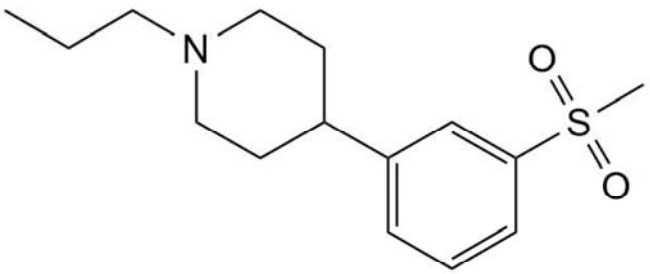
Batch Molecular Formula: $C_{15}H_{23}NO_2S$.

Batch Molecular Weight: 281.42

Physical Appearance: Beige 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:

Ye *et al* (2020) Small molecules selectively targeting sigma-1 receptor for the treatment of neurological diseases. J.Med.Chem. ***63*** 15187. PMID: 33111525.

Ionescu *et al* (2019) Targeting the sigma-1 receptor via pridopidine ameliorates central features of ALS pathology in a $SOD1^{G93A}$ model. Cell Death Dis. ***10*** 210. PMID: 30824685.

Ryskamp *et al* (2017) The sigma-1 receptor mediates the beneficial effects of pridopidine in a mouse model of Huntington disease. Neurobiol.Dis. ***97*** 46. PMID: 27818324.