

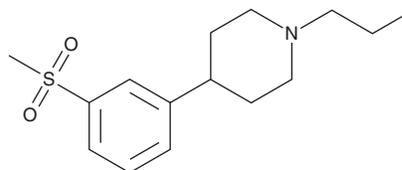
PRODUCT INFORMATION



Pridopidine

Item No. 38302

CAS Registry No.: 346688-38-8
Formal Name: 4-[3-(methylsulfonyl)phenyl]-1-propyl-piperidine
Synonyms: ACR16, ASP2314, FR310826
MF: C₁₅H₂₃NO₂S
FW: 281.4
Purity: ≥95%
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

Pridopidine is supplied as a solid. A stock solution may be made by dissolving the pridopidine in the solvent of choice, which should be purged with an inert gas. Pridopidine is soluble in organic solvents such as methanol and chloroform.

Description

Pridopidine is a ligand of sigma non-opioid intracellular receptor 1 (σ_1 receptor) and a dopaminergic stabilizer.^{1,2} It binds to the σ_1 receptor and dopamine D₂ receptor in the high-affinity state ($K_s = 81.3$ and $7,521$ nM, respectively). Pridopidine ($100 \mu\text{mol/kg}$) increases striatal 3,4-dihydroxyphenylacetic acid (DOPAC) levels and locomotor activity, as well as inhibits amphetamine-induced locomotor activity, in rats.² It improves motor function and reduces striatal mutant huntingtin (mHtt) aggregates in the R6/2 mouse model of Huntington's disease when administered at doses of 5 or 6 mg/kg.³ Pridopidine (30 mg/kg) prevents muscle atrophy and the loss of innervated neuromuscular junctions in the SOD1-G93A mouse model of amyotrophic lateral sclerosis (ALS).⁴

References

1. Sahlholm, K., Århem, P., Fuxe, K., *et al.* The dopamine stabilizers ACR16 and (-)-OSU6162 display nanomolar affinities at the σ -1 receptor. *Mol. Psychiatry* **18(1)**, 12-14 (2013).
2. Pettersson, F., Pontén, H., Waters, N., *et al.* Synthesis and evaluation of a set of 4-phenylpiperidines and 4-phenylpiperazines as D₂ receptor ligands and the discovery of the dopaminergic stabilizer 4-[3-(methylsulfonyl)phenyl]-1-propylpiperidine (huntexil, pridopidine, ACR16). *J. Med. Chem.* **53(6)**, 2510-2520 (2013).
3. Squitieri, F., Di Pardo, A., Favellato, M., *et al.* Pridopidine, a dopamine stabilizer, improves motor performance and shows neuroprotective effects in Huntington disease R6/2 mouse model. *J. Cell. Mol. Med.* **19(11)**, 2540-2548 (2015).
4. Ionescu, A., Gradus, T., Altman, T., *et al.* Targeting the sigma-1 receptor via pridopidine ameliorates central features of ALS pathology in a SOD1^{G93A} model. *Cell Death Dis.* **10(3)**, 210 (2019).

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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