

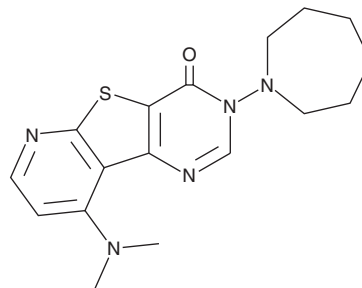
PRODUCT INFORMATION



A-841720

Item No. 21807

CAS Registry No.: 869802-58-4
Formal Name: 9-(dimethylamino)-3-(hexahydro-1H-azepin-1-yl)-pyrido[3',2':4,5]thieno[3,2-d]pyrimidin-4(3H)-one
MF: C₁₇H₂₁N₅OS
FW: 343.5
Purity: ≥98%
UV/Vis.: λ_{max}: 226, 246, 256, 363 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

A-841720 is supplied as a crystalline solid. A stock solution may be made by dissolving the A-841720 in the solvent of choice, which should be purged with an inert gas. A-841720 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of A-841720 in these solvents is approximately 3, 25, and 16 mg/ml, respectively.

A-841720 is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, A-841720 should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. A-841720 has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

A-841720 is a noncompetitive antagonist of the group 1 metabotropic glutamate receptor mGluR1 with an IC₅₀ value of 10.7 nM for inhibition of L-glutamate-induced calcium release in 1321 N1 cells.¹ It is selective for mGluR1 over mGluR5 (IC₅₀ = 343 nM) as well as mGluR2, mGluR4, and mGluR7, where it does not inhibit agonist-induced calcium release in HEK293 cells. It is also selective for mGluR1 over a panel of other G-coupled protein receptors as well as ligand- and voltage-gated ion channels at a concentration of 10 μM. A-841720 dose-dependently inhibits complete Freund's adjuvant-induced inflammatory pain (ED₅₀ = 23 μmol/kg) and sciatic nerve injury-induced mechanical allodynia (ED₅₀ = 28 μmol/kg) in rats. It also enhances cocaine seeking in mice after a prolonged abstinence following a single conditioning session when administered at a dose of 10 mg/kg per day.²

References

1. El-Kouhen, O., Lehto, S.G., Pan, J.B., *et al.* Blockade of mGluR1 receptor results in analgesia and disruption of motor and cognitive performances: Effects of A-841720, a novel non-competitive mGluR1 receptor antagonist. *Br. J. Pharmacol.* **149**(6), 761-774 (2006).
2. Halbout, B., Bernardi, R.E., Hansson, A.C., *et al.* Incubation of cocaine seeking following brief cocaine experience in mice is enhanced by mGluR1 blockade. *J. Neurosci.* **34**(5), 1781-1790 (2014).

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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