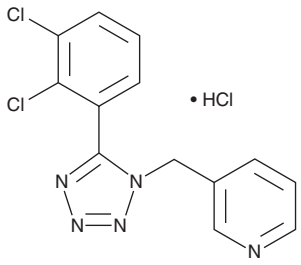
PRODUCT INFORMATION

A-438079 (hydrochloride)

Item No. 14580

CAS Registry No.: 899431-18-6
Formal Name: 3-[[5-(2,3-dichlorophenyl)-1H-tetrazol-1-yl]methyl]-pyridine, monohydrochloride
MF: $C_{13}H_9Cl_2N_5 \bullet HCl$
FW: 342.6
Purity: ≥98%
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

A-438079 (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the A-438079 (hydrochloride) in the solvent of choice, which should be purged with an inert gas. A-438079 (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of A-438079 (hydrochloride) in ethanol is approximately 10 mg/ml and approximately 30 mg/ml in DMSO and DMF.

A-438079 (hydrochloride) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, A-438079 (hydrochloride) should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. A-438079 (hydrochloride) has a solubility of approximately 0.33 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-438079 is a competitive antagonist of the nucleotide receptor $P2X_7$ (pIC_{50} = 6.9).[1] It inhibits both calcium flux and IL-1β release mediated by $P2X_7$ while not affecting the activity of other P2X receptors.[1,2] A-438079 is effective in evaluating the role of $P2X_7$ in nociception, oxidative stress, and apoptosis in cells and animals.[3-5]

References

1. Nelson, D.W., Gregg, R.J., Kort, M.E., *et al.* Structure-activity relationship studies on a series of novel, substituted 1-benzyl-5-phenyltetrazole $P2X_7$ antagonists. *J. Med. Chem.* **49(12)**, 3659-3666 (2006).
2. Donnelly-Roberts, D.L. and Jarvis, M.F. Discovery of $P2X_7$ receptor-selective antagonists offers new insights into $P2X_7$ receptor function and indicates a role in chronic pain states. *Br. J. Pharmacol.* **151(5)**, 571-579 (2007).
3. McGaraughty, S., Chu, K.L., Namovic, M.T., *et al.* $P2X_7$-related modulation of pathological nociception in rats. *Neuroscience* **146(4)**, 1817-1828 (2007).
4. Haanes, K.A., Schwab, A., and Novak, I. The $P2X_7$ receptor supports both life and death in fibrogenic pancreatic stellate cells. *PLoS One* **7(12)**, (2012).
5. Bartlett, R., Yerbury, J.J., and Sluyter, R. $P2X_7$ receptor activation induces reactive oxygen species formation and cell death in murine EOC13 microglia. *Mediators Inflamm.* **271813** (2013).

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