

PRODUCT INFORMATION



Adenosine Kinase Inhibitor (hydrate)

Item No. 17569

Formal Name: 5-(3-bromophenyl)-7-[6-(4-morpholinyl)-3-pyridinyl]-pyrido[2,3-d]pyrimidin-4-amine, hydrate

Synonym: ABT-702

MF: C₂₂H₁₉BrN₆O • XH₂O

FW: 463.3

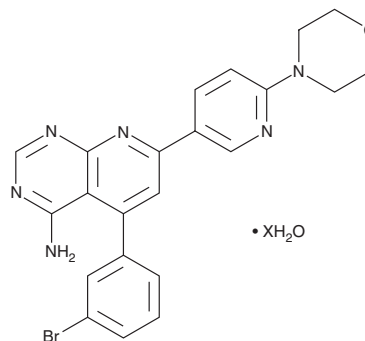
Purity: ≥98%

UV/Vis.: λ_{max}: 290, 374 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

Adenosine kinase inhibitor (hydrate) is supplied as a crystalline solid. A stock solution may be made by dissolving the adenosine kinase inhibitor (hydrate) in the solvent of choice, which should be purged with an inert gas. Adenosine kinase inhibitor (hydrate) is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of adenosine kinase inhibitor (hydrate) in these solvents is approximately 30 and 20 mg/ml, respectively.

Adenosine kinase inhibitor (hydrate) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, adenosine kinase inhibitor (hydrate) should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Adenosine kinase inhibitor (hydrate) 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

Adenosine provides homeostatic reductions in cell excitability during tissue stress and trauma by negatively modulating intercellular signaling. Adenosine kinase is the key metabolizing enzyme that regulates cellular adenosine concentrations. Inhibition of adenosine kinase represents a mechanism to selectively enhance the protective actions of adenosine during tissue trauma without producing the nonspecific effects associated with the systemic administration of adenosine receptor agonists. Adenosine kinase inhibitor is a non-nucleoside pyridopyrimidine compound that blocks the action of adenosine kinase in an adenosine-competitive and reversible manner (IC₅₀ = 1.7 nM in cell-free assays).¹ It is several orders of magnitude more selective for adenosine kinase over the adenosine A₁, A_{2A}, A₃ receptors, the adenosine transporter, and adenosine deaminase.¹ This compound has been shown to suppress nociception in various rodent pain models.^{1,2}

References

1. Jarvis, M.F., Yu, H., Kohlhaas, K., *et al.* ABT-702 (4-amino-5-(3-bromophenyl)-7-(6-morpholino-pyridin-3-yl)pyrido[2,3-d]pyrimidine, a novel orally effective adenosine kinase inhibitor with analgesic and anti-inflammatory properties: I. *in vitro* characterization and acute antinociceptive effects in the mouse. *J. Pharmacol. Exp. Ther.* **295**(3), 1156-1164 (2000).
2. Kowaluk, E.A., Mikusa, J., Wismer, C.T., *et al.* ABT-702 (4-amino-5-(3-bromophenyl)-7-(6-morpholino-pyridin-3-yl)pyrido[2,3-d]pyrimidine), a novel orally effective adenosine kinase inhibitor with analgesic and anti-inflammatory properties. II. *In vivo* characterization in the rat. *J. Pharmacol. Exp. Ther.* **295**(3), 1165-1174 (2000).

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.

WARRANTY AND LIMITATION OF REMEDY

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