

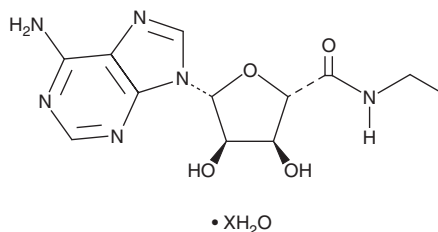
PRODUCT INFORMATION



5'-N-Ethylcarboxamidoadenosine (hydrate)

Item No. 21420

Formal Name: 1-(6-amino-9H-purin-9-yl)-1-deoxy-N-ethyl-β-D-ribofuranuronamide, hydrate
Synonyms: Adenosine 5'-ethylcarboxamide, NECA
MF: C₁₂H₁₆N₆O₄ • XH₂O
FW: 308.3
Purity: ≥98%
UV/Vis.: λ_{max}: 260 nm
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

5'-N-Ethylcarboxamidoadenosine (NECA) (hydrate) is supplied as a solid. A stock solution may be made by dissolving the NECA (hydrate) in the solvent of choice, which should be purged with an inert gas. NECA (hydrate) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of NECA (hydrate) in these solvents is approximately 2, 14, and 25 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of NECA (hydrate) can be prepared by directly dissolving the solid in aqueous buffers. The solubility of NECA (hydrate) in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

NECA is an adenosine analog that acts as an agonist of adenosine receptors (K_s = 1,880, 6,660, and 3.5 nM for human adenosine subtypes A₁, A_{2A}, and A₃, respectively).¹ NECA is reported to act as a potent vasodilator and can inhibit platelet aggregation by increasing cAMP (EC₅₀ = 3.1 μM).^{2,3}

References

1. Volpini, R., Dal ben, D., Lambertucci, C., *et al.* N⁶-methoxy-2-alkynyladenosine derivatives as highly potent and selective ligands at the human A₃ adenosine receptor. *J. Med. Chem.* **50(6)**, 1222-1230 (2007).
2. de Zwart, M., Link, R., von Frijtag Drabbe Künzel, J.K., *et al.* A functional screening of adenosine analogues at the adenosine A_{2B} receptor: A search for potent agonists. *Nucleosides Nucleotides* **17(6)**, 969-985 (1998).
3. Cusack, N.J. and Hourani, S.M.O. 5'-N-ethylcarboxamidoadenosine: A potent inhibitor of human platelet aggregation. *Br. J. Pharmacol.* **72(3)**, 443-447 (1981).

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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