Small Molecules

EHNA

Adenosine deaminase and PDE2 inhibitor

Catalog # 72442

5 mg

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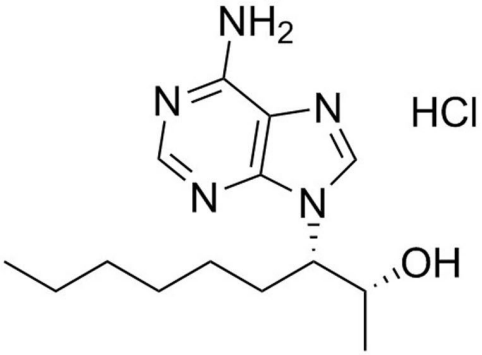
Product Description

EHNA is a reversible adenosine deaminase inhibitor (IC_{50} = 1.2 µM in human red blood cells) that also selectively inhibits the cGMP-specific phosphodiesterase (PDE2; IC_{50} = 0.8 and 2 µM from human and pig myocardium, respectively, 3.5 µM in rat hepatocyte, and 5.5 µM in human platelet; Michie et al.; Podzuweit et al.). Comparatively, EHNA is much less potent at inhibiting PDE1, PDE3, or PDE4 (IC_{50} > 100 µM; Podzuweit et al.). This product is supplied as the hydrochloride salt of the molecule, and is a racemic mixture.

Molecular Name:	EHNA (Hydrochloride)
Alternative Names:	NSC 263164; erythro-9-(2-Hydroxy-3-nonyl)adenine
CAS Number:	58337-38-5
Chemical Formula:	$C_{14}H_{23}N_5O \cdot HCl$
Molecular Weight:	313.8 g/mol
Purity:	≥ 95%
Chemical Name:	(αR,βS)-rel-6-amino-β-hexyl-α-methyl-9H-purine-9-ethanol, monohydrochloride
Structure:	

Properties

Physical Appearance:	A crystalline solid
Storage:	Product stable at -20°C as supplied. Protect from prolonged exposure to light. Stable as supplied for 12 months from date of receipt.
Solubility:	· DMSO ≤ 95 mM · Absolute ethanol ≤ 60 mM For example, to prepare a 10 mM stock solution in DMSO, resuspend 1 mg in 319 µL of fresh DMSO. Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported, however, as a general guide we recommend storage in DMSO at -20°C. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application. Compound has low solubility in aqueous media. For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use. Avoid final DMSO concentration above 0.1% due to potential cell toxicity.

Published Applications

MAINTENANCE AND SELF-RENEWAL
· Maintains pluripotency of human embryonic stem cells in the absence of exogenous cytokines, and blocks directed neuronal differentiation (Burton et al.).

References

Burton P et al. (2010) Erythro-9-(2-hydroxy-3-nonyl)adenine (EHNA) blocks differentiation and maintains the expression of pluripotency markers in human embryonic stem cells. Biochem J 432(3): 575–84.
Michie AM et al. (1996) Rapid regulation of PDE-2 and PDE-4 cyclic AMP phosphodiesterase activity following ligation of the T cell antigen receptor on thymocytes: Analysis using the selective inhibitors erythro-9-(2-hydroxy-3-nonyl)-adenine (EHNA) and rolipram. Cell Signal 8(2): 97–110.
Podzuweit T et al. (1995) Isozyme selective inhibition of cGMP-stimulated cyclic nucleotide phosphodiesterases by erythro-9-(2-hydroxy-3-nonyl) adenine. Cell Signal 7(7): 733–8.

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