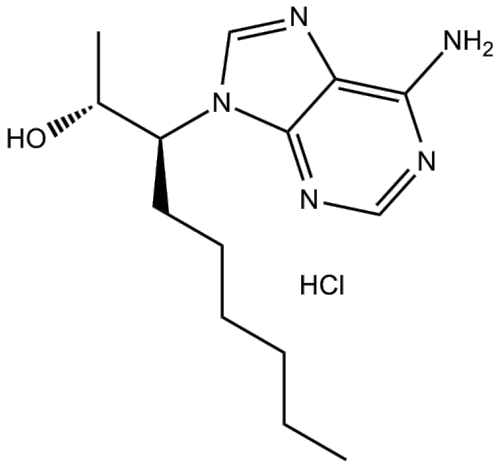
Product Data Sheet

Product Name: EHNA hydrochloride
Cat. No.: GC10935

Chemical Properties

Cas. No.	58337-38-5		
Chemical Name	(2R,3S)-3-(6-amino-9H-purin-9-yl)nonan-2-ol hydrochloride		
SMILES	O[C@H](C)[C@H](CCCCCC)N1C2=NC=NC(N)=C2N=C1.Cl		
Formula	$C_{14}H_{23}N_5O.HCl$	M.Wt	313.83
Solubility	30mg/mL in DMSO, 30mg/mL in DMF, 20mg/mL in Ethanol, 10mg/mL in Water	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20°C for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		

Structure



Background

EHNA is a reversible adenosine deaminase inhibitor (IC50 = 1.2 μM in human red blood cells) that also selectively inhibits the cGMP-specific phosphodiesterase (PDE2) (IC50s = 0.8 and 2 μM from human and porcine myocardium, respectively, 3.5 μM in rat hepatocyte, and 5.5 μM in human

platelet).[1],[2] Comparatively, EHNA is much less potent at inhibiting PDE1, PDE3, or PDE4 (IC50s > 100 μM).1 EHNA has been used to evaluate cardioprotective and neuroprotective effects during ischemia, to study the role of cAMP/cGMP signaling, and to maintain pluripotency/prevent differentiation of human embryonic stem cells.[3],[4][5]

Reference

[1]. Podzuweit, T., Nennstiel, P., and Müller, A. Isozyme selective inhibition of cGMP-stimulated cyclic nucleotide phosphodiesterases by erythro-9-(2-hydroxy-3-nonyl) adenine. Cell. Signal. 7(7), 733-738 (1995).[
[2]. Michie, A.M., Lobban, M., Müller, T., et al. 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 (1996).
[3]. Barankiewicz, J., Danks, A.M., Abushanab, E., et al. Regulation of adenosine concentration and cytoprotective effects of novel reversible adenosine deaminase inhibitors. J. Pharmacol. Exp. Ther. 283(3), 1230-1238 (1997).
[4]. Dickinson, N.T., Jang, E.K., and Haslam, R.J. Activation of cGMP-stimulated phosphodiesterase by nitroprusside limits cAMP accumulation in human platelets: Effects on platelet aggregation. Biochem. J. 323(Pt. 2), 371-377 (1997).
[5]. Burton, P., Adams, D.R., Abraham, A., et al. 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), 575-584 (2010).