Small Molecules

EHNA

Adenosine deaminase and PDE2 inhibitor

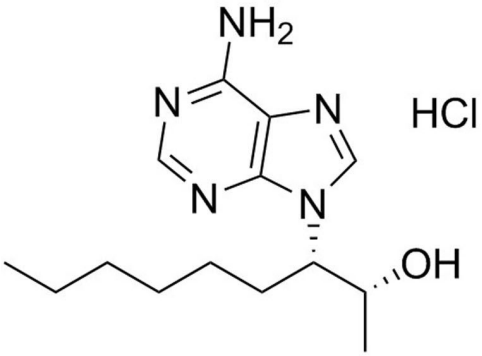
Catalog # 72442

5 mg

STEMCELL™ TECHNOLOGIES
Scientists Helping Scientists™ | WWW.STEMCELL.COM
TOLL FREE PHONE 1 800 667 0322 • PHONE +1 604 877 0713
INFO@STEMCELL.COM • TECHSUPPORT@STEMCELL.COM
FOR GLOBAL CONTACT DETAILS VISIT OUR WEBSITE

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:	≥ 98%
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. For product expiry date, please contact techsupport@stemcell.com.
Solubility:	· Absolute ethanol ≤ 60 mM · DMSO ≤ 95 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): 733–738.

Related Small Molecules

For a complete list of small molecules available from STEMCELL Technologies, please visit our website at www.stemcell.com/smallmolecules or contact us at techsupport@stemcell.com.

STEMCELL TECHNOLOGIES INC.'S QUALITY MANAGEMENT SYSTEM IS CERTIFIED TO ISO 13485. PRODUCTS ARE FOR RESEARCH USE ONLY AND NOT INTENDED FOR HUMAN OR ANIMAL DIAGNOSTIC OR THERAPEUTIC USES UNLESS OTHERWISE STATED.

Copyright © 2015 by STEMCELL Technologies Inc. All rights reserved including graphics and images. STEMCELL Technologies & Design, STEMCELL Shield Design and Scientists Helping Scientists are trademarks of STEMCELL Technologies Inc. While STEMCELL has made all reasonable efforts to ensure that the information provided by STEMCELL and its suppliers is correct, it makes no warranties or representations as to the accuracy or completeness of such information.