Product Data Sheet

Product Name: 2-hexyl-4-Pentynoic Acid
Cat. No.: GC11249

Chemical Properties

Cas. No.	96017-59-3		
Chemical Name	2-(prop-2-yn-1-yl)octanoic acid		
SMILES	CCCCCCC(C(O)=O)CC#C		
Formula	$C_{11}H_{18}O_2$	M.Wt	182.26
Solubility	≥ 15.45mg/mL in DMSO	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ 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	2-hexyl-4-Pentynoic Acid		

Background

2-hexyl-4-Pentynoic Acid is a potent and robust inhibitor of HDAC with IC50 value of 13 μM [1].

Histone deacetylases (HDACs) are a class of enzymes that remove acetyl groups from ε-N-acetyl lysines on histones, allowing the histones to wrap the DNA more tightly. DNA expression is regulated by de-acetylation and acetylation.

2-hexyl-4-Pentynoic Acid, a valproic acid (VPA) derivatives, is a potent and robust HDACs inhibitor. In cerebellar granule cells, 2-hexyl-4-Pentynoic Acid (5 μM) significantly and dose-dependently increased acetylated histone H3 (Ac-H3) levels, and at 50-100 μM led to a maximal increase of 600-700%, compared with only a 200% increase by VPA at 100 μM. 2-hexyl-4-Pentynoic Acid also completely blocked glutamate-induced cell death at 50-100 μM. Also, 2-hexyl-4-Pentynoic Acid restored glutamate-induced neuronal loss. At 50 μM, 2-hexyl-4-Pentynoic Acid effectively increased HSP70-1a and HSP70-1b mRNA levels through HDAC inhibition [1].

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com
Address: 10292 Central Ave. #205, Montclair, CA, USA

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Reference:
[1]. Leng Y, Marinova Z, Reis-Fernandes MA, et al. Potent neuroprotective effects of novel structural derivatives of valproic acid: potential roles of HDAC inhibition and HSP70 induction. Neurosci Lett, 2010, 476(3): 127-132.

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