2-hexyl-4-Pentynoic Acid
Item No. 15205

CAS Registry No.: 96017-59-3
Formal Name: 2-(2-propyn-1-yl)-octanoic acid
MF: C_{11}H_{18}O_2
FW: 182.3
Purity: ≥95%
Stability: ≥1 year at -20°C
Supplied as: A neat oil

Laboratory Procedures
For long term storage, we suggest that 2-hexyl-4-pentynoic acid be stored as supplied at -20°C. It should be stable for at least one year.

2-hexyl-4-Pentynoic acid is supplied as a neat oil. A stock solution may be made by dissolving the 2-hexyl-4-pentynoic acid in the solvent of choice. 2-hexyl-4-Pentynoic acid is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide, which should be purged with an inert gas. The solubility of 2-hexyl-4-pentynoic acid in these solvents is approximately 33, 20, and 16 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 2-hexyl-4-pentynoic acid can be prepared by directly dissolving the neat oil in aqueous buffers. The solubility of 2-hexyl-4-pentynoic acid in PBS, pH 7.2, is approximately 2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

2-hexyl-4-Pentynoic acid is a derivative of valproic acid (Item No. 13033), an inhibitor of histone deacetylases (HDACs). It inhibits HDAC activity more potently (IC_{50} = 13 µM) than valproic acid (IC_{50} = 398 µM).\(^1\) 2-hexyl-4-Pentynoic acid induces histone hyperacetylation in cerebellar granule cells significantly at 5 µM.\(^3\) It also induces the expression of heat shock proteins Hsp70-1a and Hsp70-1b and protects cerebellar granule cells from glutamate-induced excitotoxicity when used at a concentration of 50 µM.\(^1\)

Reference

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