

Lactic acid sodium (60% w/w in water)

Chemical Properties

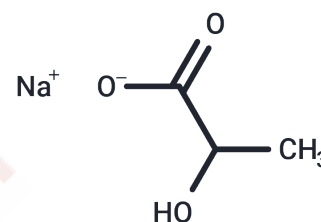
CAS No. : 72-17-3

Formula: C₃H₅NaO₃

Molecular Weight: 112.06

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Actual storage temperature shall be subject to the COA.



Biological Description

Description	Lactic acid (DL-Lactic acid) sodium (60% w/w in water) is an activator of hydroxycarboxylic acid receptor 1 (HCAR1) and an epigenetic regulator that induces lysine residue lactylation. As the end product of glycolysis, it bridges the gap between glycolysis and oxidative phosphorylation. This compound is a tumor metabolite, offering immunoprotective effects of lactate in antitumor immunity. Additionally, it possesses antimicrobial properties and can be used as a food preservative.
Targets(IC50)	Endogenous Metabolite,Antibacterial,HCAR
In vitro	Lactic acid (20 mM; 24, 48 hours) combined with sodium (60% w/w in water) significantly reduces cell proliferation and migration, altering cellular metabolism towards oxidative phosphorylation. Additionally, lactic acid (20 mM; 24 hours) with sodium (60% w/w in water) increases the protein and mRNA expression levels of MCT1 and HCAR1.
In vivo	Lactic acid (1.6 g/kg; pH 7.4; subcutaneous injection; once daily; from day 8 to 30) with sodium (60% w/w in water) exhibits CD8+ T cell-dependent tumor growth inhibition in the MC38 colon cancer model. Note: Adjust the working solution's pH to approximately 7.4 before administration in animals.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	8.9238 mL	44.619 mL	89.2379 mL
5 mM	1.7848 mL	8.9238 mL	17.8476 mL
10 mM	0.8924 mL	4.4619 mL	8.9238 mL
50 mM	0.1785 mL	0.8924 mL	1.7848 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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