

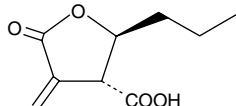
Product Information



Butyrolactone 3

Item No. 12095

CAS Registry No.: 778649-18-6
Formal Name: rel-tetrahydro-4-methylene-5-oxo-2R-propyl-3S-furancarboxylic acid
MF: C₉H₁₂O₄
FW: 184.2
Purity: ≥95%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid



Laboratory Procedures

For long term storage, we suggest that butyrolactone 3 be stored as supplied at -20°C. It should be stable for at least two years.

Butyrolactone 3 is supplied as a crystalline solid. A stock solution may be made by dissolving the butyrolactone 3 in the solvent of choice. Butyrolactone 3 is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of butyrolactone 3 in ethanol and DMSO is approximately 14 mg/ml and approximately 13 mg/ml in DMF.

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 butyrolactone 3 can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of butyrolactone 3 in PBS, pH 7.2, is approximately 2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Gcn5 is a chromatin modifying factor whose HAT activity is required to acetylate histone H3 lysine 9 (K9) and K14, which facilitates transcription elongation by relaxing nucleosomes. Butyrolactone 3 specifically inhibits the histone acetyltransferase Gcn5 with an IC₅₀ value of 100 μM and has an affinity to the Gcn5 enzyme comparable to that of its natural substrate, histone H3.¹ Butyrolactone 3 can inhibit pre-RNA splicing with an IC₅₀ value of 0.5 mM and as such has been used to investigate Gcn5/PCAF-like HAT functions during assembly of spliceosome before pre-mRNA translation.²

References

1. Biel, M., Kretsovali, A., Karatzali, E., *et al.* Design, synthesis, and biological evaluation of a small-molecule inhibitor of the histone acetyltransferase Gcn5. *Angew. Chem. Int. Ed.* **43**, 3974-3976 (2004).
2. Kuhn, A.N., Van Santen, M.A., Schwienhorst, A., *et al.* Stalling of spliceosome assembly at distinct stages by small-molecule inhibitors of protein acetylation and deacetylation. *RNA* **15**, 153-175 (2009).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/12095

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