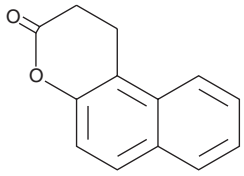
PRODUCT INFORMATION

Splitomicin

Item No. 13168

CAS Registry No.: 5690-03-9
Formal Name: 1,2-dihydro-3H-naphtho[2,1-b]pyran-3-one
Synonym: 1-Naphthalenepropanoic Acid
MF: $C_{13}H_{10}O_2$
FW: 198.2
Purity: ≥98%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Splitomicin is supplied as a crystalline solid. A stock solution may be made by dissolving the splitomicin in the solvent of choice, which should be purged with an inert gas. Splitomicin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of splitomicin in these solvents is approximately 15 mg/ml in ethanol and DMF, and 20 mg/ml in DMSO.

Splitomicin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, splitomicin should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Splitomicin has a solubility of approximately 0.1 mg/ml in a 1:10 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Splitomicin is a small molecule inhibitor of Sir2p histone deacetylase activity, displaying higher activity *in vivo* (minimal inhibitory concentration = 0.49 µM) than *in vitro* (IC_{50} = 60 µM).[1-3] It less effectively inhibits yeast Hst1, a paralog of Sir2p.[2] Splitomicin has diverse effects on mammalian cells.[4-6]

References

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2. Hirao, M., Posakony, J., Nelson, M., *et al.* Identification of selective inhibitors of NAD+-dependent deacetylases using phenotypic screens in yeast. *J. Biol. Chem.* **278(52)**, 52773-52782 (2003).
3. Posakony, J., Hirao, M., Stevens, S., *et al.* Inhibitors of Sir2: Evaluation of splitomicin analogues. *J. Med. Chem.* **47**, 2635-2644 (2004).
4. Biacsi, R., Kumari, D., and Usdin, K. SIRT1 inhibition alleviates gene silencing in Fragile X mental retardation syndrome. *PLoS Genet.* **4(3)**, (2008).
5. Liu, F.C., Liao, C.H., Chang, Y.W., *et al.* Splitomicin suppresses human platelet aggregation via inhibition of cyclic AMP phosphodiesterase and intracellular Ca^{++} release. *Thromb. Res.* **124**, 199-207 (2009).
6. Kang, M.R., Lee, S.W., Um, E., *et al.* Reciprocal roles of SIRT1 and SKIP in the regulation of RAR activity: Implication in the retinoic acid-induced neuronal differentiation of P19 cells. *Nucleic Acids Res.* **38(3)**, 822-831 (2010).

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