Oligomycin A  
Item No. 11342

CAS Registry No.: 579-13-5  

Synonym: MCH 32  
MF: C_{45}H_{74}O_{11}  
FW: 791.1

Purity: ≥ 95%  
UV/Vis.: λ_{max} 225 nm

Supplied as: A crystalline solid  
Storage: -20°C  
Stability: ≥ 4 years  
Item Origin: Bacterium/Streptomyces sp.

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

Laboratory Procedures

Oligomycin A is supplied as a crystalline solid. A stock solution may be made by dissolving the oligomycin A in the solvent of choice, which should be purged with an inert gas. Oligomycin A is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of oligomycin A in ethanol and DMF is approximately 30 mg/ml and approximately 20 mg/ml in DMSO.

Oligomycin A is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, oligomycin A should first be dissolved in ethanol and then diluted with the aqueous buffer of choice. Oligomycin A has a solubility of approximately 0.3 mg/ml in a 1:2 solution of ethanol:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Oligomycins are macrolides created by Streptomyces species that can be toxic to other organisms. Different oligomycin isomers are highly specific for the disruption of mitochondrial metabolism. Oligomycin A, a dominant analog of the isomers, is an inhibitor of mitochondrial $F_1 F_0$ ATP synthase that induces apoptosis in a variety of cell types (average $G_{1/2} = 270$ nM).¹⁻³ Oligomycin A exhibits antifungal, antitumor, and nematocidal activities, but has poor solubility in water and other biocompatible solvents, which limits its clinical application.⁴

References