

## Product Data Sheet

Product Name: Oligomycin C

Cat. No.: GC16221

### Chemical Properties

Cas. No. 11052-72-5

Chemical Name (1R,2'R,4E,5'S,6S,6'S,7R,8S,10R,11S,12S,14S,15S,16R,18E,20E,22R,25S,28S,29R)-22-ethyl-3',4',5',6'-tetrahydro-7,11,15-trihydroxy-6'-[(2R)-2-hydroxypropyl]-5',6,8,10,12,14,16,28,29-nonamethyl-spiro[2,26-dioxab

SMILES O=C([C@@H](C)[C@H](O)[C@@H](C)/C=C/1)[C@H](C)[C@@H](O)[C@H](C)C([C@@H](C)[C@@H](O)[C@H](C)C/C=C/C=C/[C@@](CC)([H])CC[C@@]2([H])[C@@H](C)[C@@]([C@H](C)[C@@]3(CC[C@H](C)[C@@](C[C@H](O)C)([H])O3)O2)([H])OC1=O)=O

Formula C<sub>45</sub>H<sub>74</sub>O<sub>10</sub>

M.Wt 775.1

Solubility DMF: soluble, DMSO: soluble, Ethanol: soluble, Methanol: soluble

Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure

### Background

Oligomycins are the macrolide antibiotics produced by Streptomyces species such as Streptomyces diastatochromogenes, S. libani and S. avermitilis. Oligomycins exhibited a strong toxicity against other organisms, such as Aspergillus niger, Alternaria alternata, Botrytis cinerea and Phytophthora capsici. Oligomycins showed no activity towards bacteria. Different oligomycin isomers are highly specific for the disruption of mitochondrial metabolism.

Oligomycin C is a minor antifungal compound isolated from Streptomyces strain in soil sample that acts as an inhibitor of the mitochondrial F1FO-ATP synthase [1]. Inhibition of

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the ATP synthase by oligomycins resulted in cell death [2].

### References:

- [1]. Yang P W, Li M G, Zhao J Y, et al. Oligomycins A and C, major secondary metabolites isolated from the newly isolated strain *Streptomyces diastaticus*[J]. *Folia microbiologica*, 2010, 55(1): 10-16.
- [2]. Marton A, Mihalik R, Bratincsák A, et al. Apoptotic cell death induced by inhibitors of energy conservation[J]. *European journal of biochemistry*, 1997, 250(2): 467-475.

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