

## Product Data Sheet

Product Name: 21-hydroxy Oligomycin A

Cat. No.: GC15881

### Chemical Properties

Cas. No. 102042-09-1

Chemical Name (1R,2'S,4E,5'S,6S,6'S,7R,8S,10R,11R,12S,14R,15S,16R,18E,20E,22R,25S,28S,29R)-22-ethyl-3',4',5',6'-tetrahydro-7,11,14,15,23-pentahydroxy-6'-[(2R)-2-hydroxypropyl]-5',6,8,10,12,14,16,28,29-nonamethyl-spiro[2,26-dioxabicyclo[23.3.1]nonacosa-4,18,20-triene-27

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@@](O)(C)[C@@H](O)[C@H](C)C/C=C/C=C/[C@H](CC)[C@H](O)C[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>12</sub>

M.Wt 807.1

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

21-hydroxy Oligomycin A is an antibiotic which was first isolated from *S. cyaneogriseus* ssp. noncyanogenus [1]. 21-hydroxy Oligomycin A functions as μM inhibitor of the multidrug efflux pump P-gp, and low nM inhibitors of K-Ras PM localization [1].

Cancer cell viability screening confirmed that 21-hydroxy Oligomycin A was cytotoxic to human colorectal carcinoma cells (IC<sub>50</sub> > 3 μM), and was inhibitor of the ABC transporter efflux pump P-glyco-protein (P-gp). Significantly, 21-hydroxy Oligomycin A was exceptionally potent inhibitor of K-Ras PM localisation with E<sub>max</sub> of 0.67–0.75 and an IC<sub>50</sub> of 1.5–14 nM [1]. 21-hydroxy Oligomycin A was inhibitor of K-Ras PM localisation in MDCK cell with an IC<sub>50</sub> of 4.82 ± 0.70 nM. 21-hydroxy Oligomycin A was moderately cytotoxic towards both SW620

**Caution: Product has not been fully validated for medical applications. For research use only.**

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and SW620 Ad300 cells with the IC<sub>50</sub> of  $14.4 \pm 0.6$  and  $11.8 \pm 3.1$   $\mu\text{M}$ , respectively. In the flow cytometry assay, 21-hydroxy Oligomycin A (20  $\mu\text{M}$ ) increased intracellular calcein fluorescence significantly when compared with the negative control [1].

### Reference:

[1] Salim A A, Tan L, Huang X C, et al. Oligomycins as inhibitors of K-Ras plasma membrane localisation[J]. Organic & biomolecular chemistry, 2016, 14(2): 711-715.

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