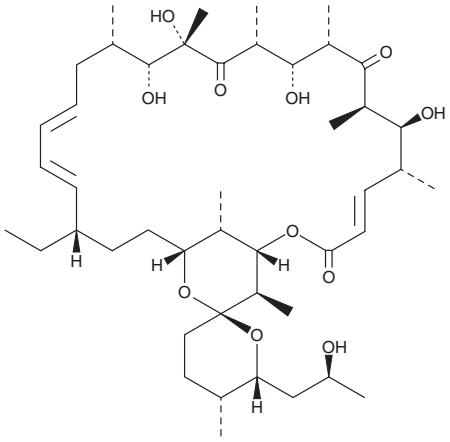
PRODUCT INFORMATION

Oligomycin A (solution)

Item No. 46795

CAS Registry No.: 579-13-5
Formal Name: (1R,2′R,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-tetrahydroxy-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-27,2′-[2H]pyran]-3,9,13-trione
Synonym: MCH 32
MF: $C_{45}H_{74}O_{11}$
FW: 791.1
Purity: ≥95%
Supplied as: A 1 mM solution in DMSO
Storage: -20°C
Stability: ≥2 years
Item Origin: Microbial fermentation



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

Laboratory Procedures

Oligomycin A (solution) is supplied as a solution in DMSO. To change the solvent, simply evaporate the DMSO under a gentle stream of nitrogen and immediately add the solvent of choice. Solvents such as ethanol and dimethyl formamide purged with an inert gas can be used. The solubility of oligomycin A (solution) in these solvents is approximately 10 mg/ml.

Description

Oligomycin A is a polyketide-derived macrolide antibiotic originally isolated from *S. diastatochromogenes* that has diverse biological activities.[1-5] It inhibits mitochondrial F_1F_O-ATP synthase by binding the F_O subunit, preventing proton translocation, and uncoupling electron transport and ATP synthesis.[2,3] Oligomycin A reduces the proliferation of K562 leukemia, HCT116 colorectal cancer, and MCF-7 breast cancer cells (IC_{50}s = 0.2, 1, and 0.44 µM, respectively).[4,5] It is active against *S. fradiae*, *C. kruesi*, and fluconazole-sensitive and -resistant *C. albicans* (MICs = 0.05, 2, 4, and 32 µg/ml, respectively).[5]

References

1. Carter, G.T. Structure determination of oligomycins A and C. *Am. Chem. Soc.* **51(22)**, 4264-4271 (1986).
2. Nafie, M.S., Alshams, M.A., Diab, M.K., *et al.* Beyond ATP synthase inhibition: Chemical diversification, bioactivities, and therapeutic potential of oligomycin A. *Chem. Biol. Drug Des.* **106(4)**, e70173 (2025).
3. Salomon, A.R., Voehringer, D.W., Herzenberg, L.A., *et al.* Apoptolidin, a selective cytotoxic agent, is an inhibitor of F_0F_1-ATPase. *Chem. Biol.* **8(1)**, 71-80 (2001).
4. Lysenkova, L.N., Turchin, K.F., Korolev, A.M., *et al.* Synthesis and cytotoxicity of oligomycin A derivatives modified in the side chain. *Bioorg. Med. Chem.* **21(11)**, 2918-2924 (2013).
5. Lysenkova, L.N., Saveljev, O.Y., Omelchuk, O.A., *et al.* Synthesis, antimicrobial and antiproliferative properties of epi-oligomycin A, the (33*S*)-diastereomer of oligomycin A. *Nat. Prod. Res.* **34(21)**, 3073-3081 (2020).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

WARRANTY AND LIMITATION OF REMEDY
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