

Oligomycin

✓ 5 mg

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rev. 05/31/16

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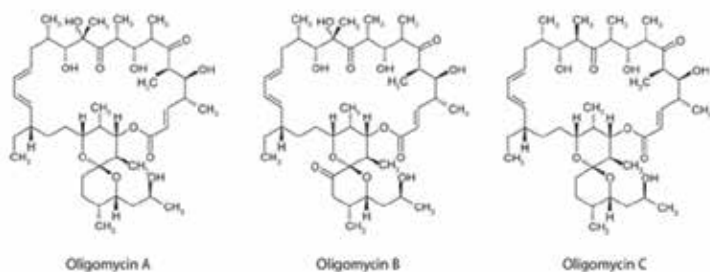
Background: During oxidative phosphorylation in mitochondria, the electron transport system pumps H⁺ from the matrix into the intermembrane compartment. This process generates a H⁺ gradient across the mitochondrial inner membrane. This H⁺ gradient is used to drive mitochondrial F₀F₁ ATPase to convert ADP to ATP. Oligomycin, an antibiotic from *Streptomyces diastatochromogenes*, blocks oxidative phosphorylation by binding to the F₀ part of the ATPase to inhibit its activity (1-3).

Background References:

- (1) Kagawa, Y. and Racker, E. (1966) *J Biol Chem* 241, 2461-6.
- (2) Kagawa, Y. and Racker, E. (1966) *J Biol Chem* 241, 2467-74.
- (3) Fessenden, J.M. and Racker, E. (1966) *J Biol Chem* 241, 2483-9.

Molecular Formula:

- Isomer A: C₄₅H₇₄O₁₁
- Isomer B: C₄₅H₇₂O₁₂
- Isomer C: C₄₅H₇₄O₁₀



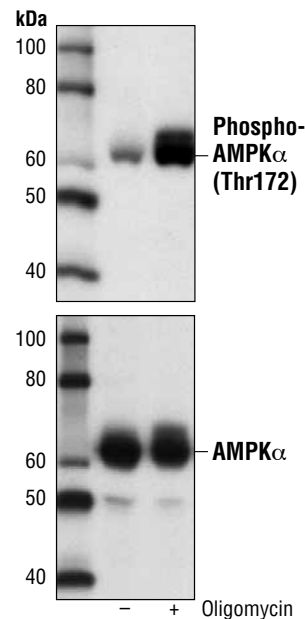
Molecular Weight: 792.3 g/mol (Average based on isomer content)

Solubility: Oligomycin is soluble in DMSO, acetone or ethanol.

Purity: 97%

Storage: Store lyophilized or in solution at -20°C, desiccated. Protect from light. In lyophilized form, the chemical is stable for 24 months. Once in solution, use within 3 months to prevent loss of potency. Aliquot to avoid multiple freeze/thaw cycles.

Directions for Use: Oligomycin is supplied as a lyophilized powder. For a 5 mM stock, reconstitute the 5 mg in 1.26 ml DMSO. Working concentrations and length of treatment can vary depending on the desired effect, but it is typically used at 0.5 - 10 μM for 0.5 - 8 hours.



Western blot analysis of extracts from 293 cells, untreated (-) or treated with Oligomycin (5 μM, 30 min; +), using Phospho-AMPKα (Thr172) (40H9) Rabbit mAb #2535 (upper) or AMPKα Antibody #2532 (lower).