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#9996 Store at -20C

Oligomycin

5 mg

For Research Use Only. Not for Use in Diagnostic Procedures.

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).

Molecular Formula

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

Molecular Weight

791.1 g/mol

Purity

97%

CAS

1404-19-9

Solubility

Soluble in DMSO at 300mg/ml and EtOH at 200mg/ml.

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.

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.

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