

Atpenin A5 (synthetic)

Mitochondrial complex II inhibitor

Antibiotic. Potent and specific inhibitor of mitochondrial complex II (succinate-ubiquinone oxidoreductase).

Citations: 13

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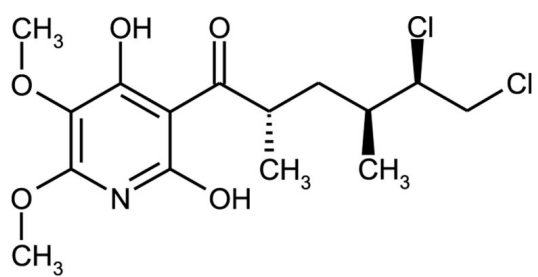
Ordering Information

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ALX-380-313-MC25	0.25mg
ALX-380-313-M001	1mg

Manuals, SDS & CofA

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Handling & Storage

Use/Stability As indicated on product label or CoA when stored as recommended.

Long Term Storage -20°C

Shipping Ambient Temperature

Regulatory Status RUO - Research Use Only

Product Details

Alternative Name 3-[(2S,4S,5R)-5,6-Dichloro-2,4-dimethyl-1-oxohexyl]-4-hydroxy-5,6-dimethoxy-2(1H)-pyridinone

Appearance White to off-white powder.

CAS 119509-24-9

Couple Target Mitochondrial complex

Couple Type Inhibitor

Formula $C_{15}H_{21}Cl_2NO_5$

MW 366.2

Purity ≥95% (HPLC)

RTECS CJ8800000

Solubility Soluble in acetone, acetonitrile, chloroform, ethyl acetate, DMSO, methanol or 100% ethanol; insoluble in water or hexane.

Source Synthetic. Originally isolated from *Penicillium* sp. strain FO-125.

Technical Info / Product Notes The IC₅₀ value against bovine heart complex II is 3.6nM (which is ~300-fold lower than the IC₅₀ value of carboxin (1.1μM)). It also inhibits fumarate reductase of *Ascaris suum* (IC₅₀ = 12nM). Inhibition of *E. coli* succinate dehydrogenase is less potent (IC₅₀ = 5μM). By co-crystallization studies of atpenin A5 and complex II, the binding site of atpenin A5 was found to be the quinone-binding site of complex II. Additionally, atpenin A5 has been shown to have a protective action against ischemia-reperfusion via the activation of mitochondrial K_{ATP} channels.



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