Atpenin A5 (synthetic)

Mitochondrial complex II inhibitor

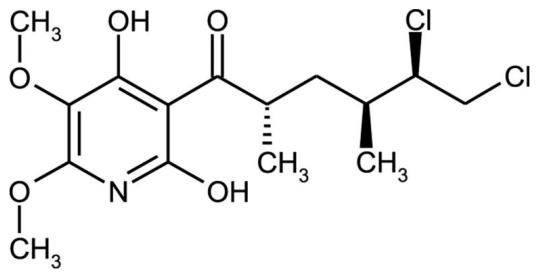
Antibiotic. Potent and specific inhibitor of mitochondrial complex II (succinate-ubiquinone oxidoreductase).

Citations: 13 View Online »

Ordering Information Order Online »

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

Manuals, SDS & CofA View Online »


CH3
OH
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CH3
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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 IC_{50} value against bovine heart complex II is 3.6nM (which is ~300-fold lower than the IC_{50} value of carboxin (1.1μM)). It also inhibits fumarate reductase of *Ascaris suum* (IC_{50} = 12nM). Inhibition of *E. coli* succinate dehydrogenase is less potent (IC_{50} = 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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