A.G. Scientific, Inc.
6450 Lusk Blvd. Suite E102
San Diego, CA 92121

Certificate of Analysis

PRODUCT: **Atpenin A5**
Mitochondrial complex II inhibitor;
[3-[(2*S*,4*S*,5*R*)-5,6-Dichloro-2,4-dimethyl-1-oxohexyl]-4-hydroxy-5,6-dimethoxy-2(1*H*)-pyridinone],
$C_{15}H_{21}NO_5Cl_2$, M.W. 366.2, CAS# [119509-24-9]

PRODUCT NUMBER: A-1438

LOT NUMBER: C1207

APPEARANCE: White powder

SOLUBILITY: Soluble in acetone, acetonitrile, chloroform, ethyl acetate, DMSO, methanol or ethanol. Insoluble in water or hexane.

PURITY (HPLC): 96.1%

SOURCE/HOST: Synthetic. Originally isolated from *Penicillium* sp. strain FO-125.

DESCRIPTION: 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.

STORAGE & HANDLING: Store short term at +4°C and store long term at -20°C.
WARNING: **TOXIC!**
CAUTION: For laboratory research & scientific manufacturing use only. Not for human or drug use. The pharmacological and toxicological properties of this product have not been fully investigated. Use caution when handling. Do not use this compound if you are not fully trained or are unaware of the hazards involved.

Verified: DD