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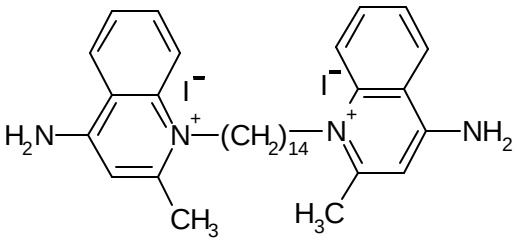
ProductInformation

DEQUALINIUM ANALOG, C_{14}-LINKER
Product Number **D 2064**
Storage Temperature –20 °C

CAS #: Not available
Synonyms: 1,1'-(1,14-Tetradecanediyl)bis[4-amino-2-methylquinolinium] diiodide, DECA-14, Dequalinium-14



Product Description
Molecular Formula: C_{34} H_{48} N_4 I_2
Molecular Weight: 766.16 (anhydrous)

Supplied as light brown solid
Purity: 94% (HPLC)
Melting Point: 258-260 °C

Dequalinium (DECA) is a neurotoxin and potent anti-tumor agent that is selectively accumulated by mitochondria. It is a mitochondrial toxin that depletes cell energy (ATP), reduces the mitochondrial membrane potential, and increases free-radical production.[1] The mitochondria also serve as a depot from which DECA is slowly released into the cytoplasm.

The activity of DECA is also due in part to its noncompetitive inhibition of protein kinase Cα (PKCα), an enzyme that is involved in cell motility and cell adhesion. When activated by exposure to UV light, DECA covalently modifies and irreversibly inhibits PKCα with an IC_{50} = 7-18 µM. PKC inactivation also inhibits the motility and invasiveness of both human and murine melanoma cells *in vitro*.[2,3]

DECA analogues with long, saturated linkers (C_{12}, C_{14}, or C_{16}) exhibit enhanced inhibition of PKC in cell-free systems, which reached a plateau with the C_{14} linker (IC_{50} = 2.6 µM). Studies with cultured metastatic melanoma cells demonstrated that photoactivated C_{12}-, C_{14}-, or C_{16}-DECA also inactivates intracellular PKCα.[4]

Preparation Instructions
Dequalinium analog, C_{14}-linker is soluble in DMSO at 22 mg/ml. It is slightly soluble in water at 0.7 mg/ml.

Storage/Stability
Store tightly sealed at -20 °C, protected from light.

References
1. Chan, C.F., and Lin-Shiau, S.Y., Suramin prevents cerebellar granule cell-death induced by dequalinium. Neurochem. Int., 38, 135-143 (2001).
2. Rotenberg, S.A. and Sun, X-G., Photoinduced inactivation of protein kinase C by dequalinium identifies the RACK-1-binding domain as a recognition site. J. Biol. Chem., **273**, 2390-2395 (1998).
3. Sullivan, R.M., et al., Photo-induced inactivation of protein kinase Cα by dequalinium inhibits motility of murine melanoma cells. Mol. Pharmacol., **58**, 729-739 (2000).
4. Qin, D., et al., Inhibition of Protein Kinase C alpha by Dequalinium Analogues: Dependence on Linker Length and Geometry. J. Med. Chem., **43,** 1413-1417 (2000).

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