



Catalog Number:	MC11031	Product Type:	Small Molecule
Bio-Activity:	Mitochondrial oxidative phosphorylation inhibitor	CAS #:	370-86-5
Research Categories:	Cell death, neuroscience, neurodegeneration	Chemical Name:	Carbonyl cyanide 4-(trifluoromethoxy)phenylhydrazone
Solubility:	Soluble in DMSO (up to 25 mg/ml) or in Ethanol (up to 25 mg/ml).	Molecular Formula:	C ₁₀ H ₅ F ₃ N ₄ O
Purity:	> 98%	Molecular Weight:	254.2
Format:	Powder	Ship Temp:	Ambient
Storage:	-20°C		

Application Notes

Description/Data:

An extremely potent uncoupler of mitochondrial oxidative phosphorylation (IC₅₀ = 20 nM) [1]. Induces apoptosis in a variety of cell lines [2]. Inhibits wild type and mutant beta-amyloid production in embryonic kidney 293 cells expressing either wild-type or "Swedish" mutant APP [3]. An important tool for inhibiting mitochondrial membrane potential [2,4]. Cell permeable.

References:

- 1) Benz R & McLaughlin S, (1983). The molecular mechanism of action of the proton ionophore FCCP (carbonylcyanide p-trifluoromethoxyphenylhydrazone). *Biophys J* 41 381
- 2) Gautier et al. (2000), A moderate but not total decrease of mitochondrial membrane potential triggers apoptosis in neuron-like cells.; *Neuroreport* 11 2953
- 3) Connop et al. (1999), Novel effects of FCCP [carbonyl cyanide p-(trifluoromethoxy)phenylhydrazone] on amyloid precursor protein processing; *J. Neurochem.* 72 1457
- 4) Collins et al. (2000), Inositol 1,4,5-trisphosphate-induced Ca²⁺ release is inhibited by mitochondrial depolarization.; *Biochem. J.* 347 593

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