

## CCCP

## Chemical Properties

CAS No. : 555-60-2

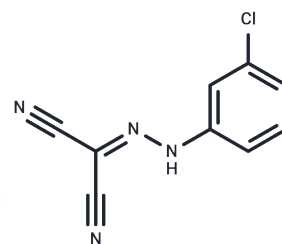
Formula: C<sub>9</sub>H<sub>5</sub>ClN<sub>4</sub>

Molecular Weight: 204.62

Appearance: no data available

Storage: store at low temperature

Powder: -20°C for 3 years | In solvent: -80°C for 1 year



## Biological Description

Description	CCCP (Carbonyl Cyanide m-Chlorophenylhydrazone) is an oxidative phosphorylation (OXPHOS) inhibitor and mitochondrial proton carrier uncoupler. CCCP inhibits the activation of STING and its downstream signaling molecules TBK1 and IRF3.
Targets(IC50)	Apoptosis,Mitochondrial Metabolism,Antibacterial,COX,IFNAR,IkB/IKK,STING
In vitro	<p><b>METHODS:</b> Human cervical cancer cells HeLa were treated with CCCP (20 <math>\mu</math>M) for 30 min, and the effect on the mitochondria-labeled fluorescent dye DiOC6 was observed using live cell fluorescence microscopy.</p> <p><b>RESULTS:</b> CCCP-induced loss of mitochondrial membrane potential resulted in efflux of DiOC6 from mitochondria into the cytoplasm and subsequent localization to punctate structures. [1]</p> <p><b>METHODS:</b> Mouse alveolar epithelial cells, MLE-12, were treated with CCCP (10-50 <math>\mu</math>M) for 2-18 h. The expression levels of the target proteins were examined by Western Blot.</p> <p><b>RESULTS:</b> CCCP caused a dose- and time-dependent conversion of LC3-I to LC3-II. [2]</p>
In vivo	<p><b>METHODS:</b> To assay in vivo activity, CCCP (5 mg/kg) was administered as a single intraperitoneal injection to adult and aged C57BL/6J mice, and hearts were collected 12 h later.</p> <p><b>RESULTS:</b> Under CCCP-treated conditions, more mitochondria bound to autophagic vesicles were found in the hearts of adult but not aged mice. [3]</p> <p><b>METHODS:</b> To assay in vivo activity, CCCP (1 mg/kg) was administered intraperitoneally to mt-Rosella mice once a day for three days.</p> <p><b>RESULTS:</b> Mitochondrial fragments were readily visible on the hearts of CCCP-treated mice, and these fragments were trapped in lysosomes for degradation.CCCP induced mitochondrial autophagy. [4]</p>

## Solubility Information

Solubility	<p>DMSO: 60 mg/mL (293.23 mM),Sonication is recommended.</p> <p>10% DMSO+40% PEG300+5% Tween 80+45% Saline: 6 mg/mL (29.32 mM),Suspension.</p> <p>Ethanol: 5 mg/mL (24.44 mM),Sonication is recommended.</p> <p>(&lt; 1 mg/ml refers to the product slightly soluble or insoluble)</p>
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## Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.8871 mL	24.4355 mL	48.8711 mL
5 mM	0.9774 mL	4.8871 mL	9.7742 mL
10 mM	0.4887 mL	2.4436 mL	4.8871 mL
50 mM	0.0977 mL	0.4887 mL	0.9774 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

## Reference

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