## Product Information

- Name: CCCP (Carbonyl cyanide 3-chlorophenylhydrazone)
- CAS No. : 555-60-2
- Molecular Weight: 204.62 g/mol
- Formula: $C_9H_5ClN_4$
- Appearance: Yellow to brown solid powder

## Biological Activity

- Target and Mechanism: An oxidative phosphorylation (OXPHOS) uncoupler. It disrupts the mitochondrial membrane potential. CCCP also induces PINK1 activation, leading to Parkin Ser65 phosphorylation, and inhibits the STING pathway by impairing the interaction between STING and TBK1.
- Mitophagy induction: Used at concentrations as low as 1 μM.
- STING pathway inhibition: Commonly used at 50 μM in studies with DMXAA, c-di-GMP, or cGAMP stimulation.
- Mitochondrial membrane potential disruption: Used at 10-20 μM.
- In Vivo Applications: Used in mouse models at 3 mg/kg (i.v.) to study antibacterial effects.
- Used in rat models at 4 mg/kg (i.p.) to study its effects on cardiac signals.

## Handling and Storage

- Storage: Powder: Store at -20°C for up to 3 years, or at 4°C for up to 2 years.
- In Solvent: Store at -80°C for up to 2 years, or at -20°C for up to 1 year. Avoid repeated freeze-thaw cycles.
- Solubility: Soluble in DMSO at 50 mg/mL (244.36 mM) with ultrasonic assistance. Note: Hygroscopic DMSO can significantly affect solubility; use freshly opened DMSO. Insoluble in water (< 0.1 mg/mL).

**Precautions**

- This product is for research use only and must not be used for clinical diagnosis or treatment.
- CCCP is a potent bioactive compound. Always wear appropriate personal protective equipment (gloves, lab coat) and handle it in a fume hood. Follow standard laboratory safety regulations for chemical handling and waste disposal.
- For in vivo formulations, please refer to the product page for detailed preparation methods (e.g., using DMSO, PEG300, Tween-80, and saline).