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DATASHEET

CCCP

Product overview

Name	CCCP
Cat No	HB5062
Alternative names	Carbonyl cyanide m-chlorophenylhydrazone
Purity	>98%
Description	Potent uncoupler of mitochondrial oxidative phosphorylation

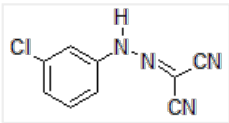
Biological Data

Biological description	<p>CCCP is a protonophore which is a widely used uncoupler of mitochondrial oxidative phosphorylation.</p> <p>CCCP disrupts ATP synthesis by transporting protons across the mitochondrial inner membrane, interfering with the proton gradient.</p> <p>By depolarizing the plasma membrane and reducing ATP production, CCCP can indirectly affect proton pump activity and cellular metabolism to cause cell death.</p> <p>The uncoupling agent FCCP is also available.</p>
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Solubility & Handling

Storage instructions	Room temperature
Solubility overview	Soluble in DMSO (100 mM)
Important	This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use

Chemical Data

Chemical name	Carbonyl cyanide 3-chlorophenylhydrazone
Molecular Weight	204.62
Chemical structure	
Molecular Formula	C ₉ H ₅ ClN ₄
CAS Number	555-60-2
PubChem identifier	2603
SMILES	C1=CC(=CC(=C1)Cl)NN=C(C#N)C#N
Source	Synthetic
InChi	InChI=1S/C9H5ClN4/c10-7-2-1-3-8(4-7)13-14-9(5-11)6-12/h1-4,13H
InChiKey	UGTJLJZQQFGTJD-UHFFFAOYSA-N
MDL number	MFCD00001848
Appearance	Yellow solid

References

Carbonyl cyanide p-(trifluoromethoxy) phenylhydrazone (FCCP) as an O₂(⁻) generator induces apoptosis via the depletion of intracellular GSH contents in Calu-6 cells.

Han et al (2009) Lung Cancer 63(2)

PubMedID [18585819](#)

Carbonyl Cyanide m-Chlorophenylhydrazine (CCCP) Reverses Resistance to Colistin, but Not to Carbapenems and Tigecycline in Multidrug-Resistant Enterobacteriaceae.

Sekyere and Amoako (2017) Front Microbiol 8

PubMedID [28261184](#)

The protonophore CCCP induces mitochondrial permeability transition without cytochrome c release in human osteosarcoma cells.

LIm et al (2001) FEBS Lett 503(1)

PubMedID [11513857](#)

Mitochondrial uncouplers with an extraordinary dynamic range.

Lou et al (2007) Biochem J 407(1)

PubMedID [17608618](#)
