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DATASHEET

Cyclosporin A

Product overview

Name	Cyclosporin A
Cat No	HB0220
Alternative names	Cyclosporine; Antibiotic S 7481F1; Ciclosporin A; CSA; cyclosporine A
Biological action	Inhibitor
Purity	>99%
Description	Potent calcineurin inhibitor. Inhibits MPTP opening.

Images



Biological Data

Biological description Potent calcineurin inhibitor ($IC_{50} = 5 \text{ nM}$) which inhibits mitochondrial permeability transition pore (MPTP) opening and also acts as a P-glycoprotein inhibitor.

Additionally, it increases AKT activation, displays immunosuppressive, tumor promoting and pro-angiogenic properties.

It also shows antiviral activity and inhibits the replication of diverse coronaviruses.

Solubility & Handling

Storage instructions	-20 °C (desiccate)
Solubility overview	Soluble in DMSO (100mM) or ethanol (50mM)
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

Molecular Weight	1202.63
Chemical structure	
Molecular Formula	$C_{62}H_{111}N_{11}O_{12}$

Molecular Weight	1202.63
CAS Number	59865-13-3
PubChem identifier	2909
SMILES	<chem>OC(C(CC=CC)C)C1C(=O)NC(C(=O)N(C)CC(N(C)C(CC(C)C)C(NC(C(=O)N(C)C(CC(C)C)C(NC(C)C(=O)NC(C)C(N(C)C(C(N(C)C(C(N(C)C(C(C)C)C(=O)N1C=O)CC(C)C=O)CC(C)C=O)=O)C(C)C)=O)=O)CC</chem>
InChiKey	PMATZTZNYRCHOR-UHFFFAOYSA-N

References

Cyclosporin A Promotes Tumor Angiogenesis in a Calcineurin-Independent Manner by Increasing Mitochondrial Reactive Oxygen Species.

Zhou AY *et al* (2014) Mol Cancer Res

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The P-glycoprotein inhibitor cyclosporin A differentially influences behavioural and neurochemical responses to the antidepressant escitalopram.

O'Brien FE *et al* (2014) Behav Brain Res 261

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Calcineurin phosphatase activity in T lymphocytes is inhibited by FK 506 and cyclosporin A.

Fruman DA *et al* (1992) Proc Natl Acad Sci U S A 89(9)

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Immunosuppressive cyclosporin A activates AKT in keratinocytes through PTEN suppression: implications in skin carcinogenesis.

Han W *et al* (2010) J Biol Chem 285(15)

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Cyclosporin A inhibits the replication of diverse coronaviruses

Hemert et al (2011) J Gen Virol. (11)

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