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Zuschläge

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- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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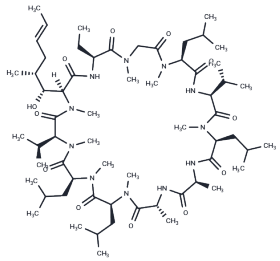
Data Sheet (Cat.No.T0945)

TargetMol

Cyclosporin A

Chemical Properties



CAS No. : 59865-13-3

Formula: C62H111N11O12

Molecular Weight: 1202.61

Appearance: no data available

Storage: keep away from moisture
Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	Cyclosporin A is a naturally occurring cyclic polypeptide that is the active metabolite of a fungus. Cyclosporin A is an immunosuppressant that binds to procyclins and inhibits calcineurin (IC50=7 nM).
Targets(IC50)	Phosphatase,Antibiotic,Complement System
In vitro	**METHODS**: Glioma cell C6 was treated with Cyclosporin A (10 μM) under hypoxic conditions for 4 h. The expression levels of target proteins were measured by Western Blot. **RESULTS**: 4 h hypoxia induced a large accumulation of endogenous HIF-1α protein, and Cyclosporin A prevented most of the hypoxia-induced HIF-1α stabilization. [1] **METHODS**: Human colon cancer cells CACO-2 were treated with Cyclosporin A (2 μM) for 24-72 h. The cell cycle was detected by Flow Cytometry. **RESULTS**: Accumulation of cells was detected in the G0/G1 phase after treatment with Cyclosporin A. The **RESULTS** were summarized in the following table. [2]
In vivo	**METHODS**: To assay activity against muscle disease in vivo, Cyclosporin A (5 mg/kg in olive oil) was injected intraperitoneally into myopathic Col6a1-/- mice twice daily for ten days. **RESULTS**: Cyclosporin A affected satellite cell activity and triggered regenerative fiber formation in Col6a1-/- mice. [3] **METHODS**: To detect the effects on ischemia-reperfusion injury (IRI), Cyclosporin A (3 mg/kg, 1 h or 10 min before ischemia; 10 mg/kg, 10 min before ischemia) was intraperitoneally injected into ischemia-reperfused C57BL/6J mice. **RESULTS**: Mortality and renal function were significantly higher in the Cyclosporin A 10 mg/kg-10 min and Cyclosporin A 3 mg/kg-1 h groups than in the Cyclosporin A 3 mg/kg-10 min group. [4]
Kinase Assay	Phosphatase Assay: Purified bovine brain calcineurin and calmodulin are purchased. Reaction mixtures with purified enzyme contains 100 nM calcineurin, 100 nM calmodulin, and 5 μM 32P-labeled phosphopeptide, in 60 μl (total volume) of assay buffer containing 20 mM Tris (pH 8), 100 mM NaCl, 6 mM MgCl2, 0.5 mM dithiothreitol, 0.1 mg of bovine serum albumin per ml, and either 0.1 mM CaCl2 or 5 mM EGTA. Reaction mixtures with cell lysates contains 20 μl of undiluted lysate, 5 μM 32P-labeled phosphopeptide, and 40 μl of assay buffer. Where indicated, reaction mixtures contains 50 μM peptide 412 or 413 and/or 500 nM okadaic acid, a specific inhibitor of phosphatases 1 and 2A; 500 nM okadaic acid is sufficient for inhibition of Ca2+-

	independent phosphatases, whereas higher concentrations partially inhibit Ca2+-dependent activity as well. After 15 min at 30°C, reactions are terminated by the addition of 0.5 ml of 100 mM potassium phosphate buffer (pH 7.0) containing 5% trichloroacetic acid. Free inorganic phosphate is isolated by Dowex cation-exchange chromatography and quantitated by scintillation counting as described.
Cell Research	Immunosuppressive agents are dissolved in ethanol at concentrations 1000-fold more than the concentration desired for cell treatments. Cells (106) are suspended in 1 ml of complete medium in microcentrifuge tubes; 1 µl of ethanol or of the ethanolic solution of Cyclosporin A is added, and the cells are incubated at 37°C for 1 hr. Cells are washed twice with 1 ml of PBS on ice and lysed in 50µl of hypotonic buffer containing 50 mM Tris (pH 7.5); 0.1 mM EGTA; 1 mM EDTA; 0.5 mM dithiothreitol; and 50 µg of phenylmethylsulfonyl fluoride, 50 µg of soybean trypsin inhibitor, 5 µg of leupeptin, and 5 µg of aprotinin per ml. Lysates are subjected to three cycles of freezing in liquid nitrogen followed by thawing at 30°C and then are centrifuged at 4°C for 10 min at 12,000×g.(Only for Reference)

Solubility Information

Solubility	DMSO: 60 mg/mL (49.89 mM), Ethanol: 60.1 mg/mL (50 mM), (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	0.8315 mL	4.1576 mL	8.3152 mL
5 mM	0.1663 mL	0.8315 mL	1.663 mL
10 mM	0.0832 mL	0.4158 mL	0.8315 mL
50 mM	0.0166 mL	0.0832 mL	0.1663 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

D'Angelo G, et al. Cyclosporin A prevents the hypoxic adaptation by activating hypoxia-inducible factor-1alpha Pro-564 hydroxylation. J Biol Chem. 2003 Apr 25;278(17):15406-11.