


#9973

Store at -20°C

Cyclosporin A

100 mg



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Background

The calcium dependent protein phosphatase calcineurin is responsible for the de-phosphorylation of the transcriptional regulator nuclear factor of activated T cells (NFAT) and is essential for NFAT's nuclear translocation and activation (1,2). Calcineurin is a target of two common immunosuppressants, cyclosporin A (CsA) (3) and FK-506 (also known as tacrolimus and fugimycin) (4), both of which can inhibit antigen and mitogen triggered T cell activation. These drugs interact with the immunophilins cyclophilin and FKBP-12, respectively, and the immunophilin-drug complex binds to calcineurin to inhibit substrate binding (5). FK-506 can be up to 100-fold more potent than CsA in various models (6-8).

Molecular Formula

C₆₂H₁₁₁N₁₁O₁₂

Molecular Weight

1202.61 g/mol

Purity

>99%

CAS

59865-13-3

Solubility

Soluble in DMSO at 100mg/ml and EtOH at 200mg/ml.

Storage

Store lyophilized or in solution at -20°C, desiccated. Protect from light. In lyophilized form, the chemical is stable for 24 months. Once in solution, use within 3 months to prevent loss of potency. Aliquot to avoid multiple freeze/thaw cycles.

Directions for Use:

Cyclosporin A is supplied as a 100 mg powder. Store at -20°C. Cyclosporin A is soluble in ethanol at 200 mg/ml (also DMSO at 100 mg/ml) and stock solutions should be stored at -20°C. Working concentrations and length of treatment can vary depending on the desired effect but it is typically used at around 100 nM.

Background References

- Schulz, R.A. and Yutzey, K.E. (2004) *Dev Biol* 266, 1-16.
- Rusnak, F. and Mertz, P. (2000) *Physiol Rev* 80, 1483-521.
- Borel, J.F. et al. (1976) *Agents Actions* 6, 468-75.
- Kino, T. et al. (1987) *J Antibiot (Tokyo)* 40, 1249-55.
- Liu, J. et al. (1991) *Cell* 66, 807-15.
- Henderson, D.J. et al. (1991) *Immunology* 73, 316-21.
- Tocci, M.J. et al. (1989) *J Immunol* 143, 718-26.
- Yoshimura, N. et al. (1989) *Transplantation* 47, 351-6.

Cross-Reactivity Key

H: human **M:** mouse **R:** rat **Hm:** hamster **Mk:** monkey **Vir:** virus **Mi:** mink **C:** chicken **Dm:** D. melanogaster
X: Xenopus **Z:** zebrafish **B:** bovine **Dg:** dog **Pg:** pig **Sc:** S. cerevisiae **Ce:** C. elegans **Hr:** horse
GP: Guinea Pig **Rab:** rabbit **All:** all species expected

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