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#9973 Store at -20C

Cyclosporin A

100 mg

For Research Use Only. Not for Use in Diagnostic Procedures.

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

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