**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 fujimycin) (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:** C_{62}H_{111}N_{11}O_{12}

**Molecular Weight:** 1202.63 g/mol

**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 (also DMSO) 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:**

**Applications Key:**
- W—Western
- IP—Immunoprecipitation
- IHC—Immunohistochemistry
- ChIP—Chromatin Immunoprecipitation
- IF—Immunofluorescence
- F—Flow cytometry
- E-P—ELISA-Peptide

**Species Cross-Reactivity Key:**
- H—human
- M—mouse
- R—rat
- Hm—hamster
- Mk—monkey
- Mi—mink
- C—chicken
- Dm—D. melanogaster
- X—Xenopus
- Z—zebra fish
- B—bovine
- Dg—dog
- Pg—pig
- Sc—S. cerevisiae
- All—all species expected

Species enclosed in parentheses are predicted to react based on 100% homology.

**Dose response inhibition of IL-2 by Cyclosporin A in Jurkat cells treated overnight with TPA (40 nM) and A23187 (2 μM).**