

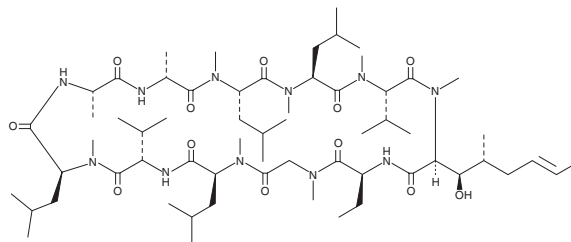
# PRODUCT INFORMATION



## Cyclosporin A

Item No. 12088

CAS Registry No.: 59865-13-3  
Synonym: NSC 290193  
MF:  $C_{62}H_{111}N_{11}O_{12}$   
FW: 1,202.6  
Purity:  $\geq 99\%$   
Supplied as: A solid  
Storage:  $-20^{\circ}C$   
Stability:  $\geq 4$  years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

### Laboratory Procedures

Cyclosporin A is supplied as a solid. A stock solution may be made by dissolving the cyclosporin A in the solvent of choice, which should be purged with an inert gas. Cyclosporin A is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of cyclosporin A in these solvents is approximately 14, 3, and 20 mg/ml, respectively.

Cyclosporin A is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, cyclosporin A should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Cyclosporin A has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

Cyclosporin A is an immunosuppressant drug that binds cyclophilin D, inhibiting the phosphatase activity of calcineurin in T cells ( $IC_{50} = 5$  nM).<sup>1-3</sup> It blocks the transcription of genes involved in T cell activation by interfering with the calcineurin-driven nuclear import of the transcription factor NFAT.<sup>1,4,5</sup> Because of its powerful immunosuppressant activity, cyclosporin A has long been used for the prevention of transplant rejection.<sup>6</sup>

### References

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3. Fruman, D.A., Klee, C.B., Bierer, B.E., et al. Calcineurin phosphatase activity in T lymphocytes is inhibited by FK 506 and cyclosporin A. *Proc. Natl. Acad. Sci. USA* **89(9)**, 3686-3690 (1992).
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5. McCaffrey, P.G., Perrino, B.A., Soderling, T.R., et al. NF-ATp, a T lymphocyte DNA-binding protein that is a target for calcineurin and immunosuppressive drugs. *J. Biol. Chem.* **268(5)**, 3747-3752 (1993).
6. Laupacis, A., Keown, P.A., Ulan, R.A., et al. Cyclosporin A: A powerful immunosuppressant. *Can. Med. Assoc. J.* **126(9)**, 1041-1046 (1982).

#### WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

#### SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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