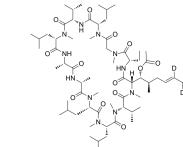
Cyclosporin A acetate-d₄

| Cat. No.: | HY-B0579S2 | | |
|--------------------|---|-------|----------|
| Molecular Formula: | C ₆₄ H ₁₀₉ D ₄ N ₁₁ O ₁₃ | | |
| Molecular Weight: | 1248.67 | | |
| Target: | Isotope-Labeled Compounds; Calcineurin | | |
| Pathway: | Others; Neuronal Signaling | | |
| Storage: | Powder | -20°C | 3 years |
| | In solvent | -80°C | 6 months |
| | | -20°C | 1 month |



Product Data Sheet

| BIOLOGICAL ACTIVITY | | |
|---------------------|---|--|
| BIOLOGICAL ACTIVITY | | |
| Description | Cyclosporin A acetate-d ₄ (Cyclosporine A acetate-d ₄ ; Ciclosporin A acetate-d ₄) is a deuterium labeled Cyclosporin A (HY-B0579) ^[1] . Cyclosporin A (Cyclosporine A) is an immunosuppressant which binds to the cyclophilin and inhibits phosphatase activity of protein phosphatase 2B (PP2B/calcineurin) with an IC ₅₀ of 5 nM ^[2] . Cyclosporin A also inhibits CD11a/CD18 adhesion ^[3] . | |
| In Vitro | Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs ^[1] . MCE has not independently confirmed the accuracy of these methods. They are for reference only. | |

REFERENCES

[1]. Dalmarco EM, et al. Cyclosporin A inhibits CD11a/CD18 adhesion molecules due to inhibition of TNFalpha and IL-1 beta levels in the mouse model of pleurisy induced by carrageenan. Cell Adh Migr. 2008 Oct-Dec;2(4):231-5.

[2]. Borel JF, et al. Effects of the new anti-lymphocytic peptide cyclosporin A in animals. Immunology. 1977 Jun;32(6):1017-25.

[3]. Williams, R, et al. Randomised trial comparing FK506 and cyclosporin in prevention of liver allograft rejection. European FK506 Multicentre Liver Study Group. Lancet, 1994, 344(8920), 423-428.

[4]. Nicolli A, et al. Interactions of cyclophilin with the mitochondrial inner membrane and regulation of the permeability transition pore, and cyclosporin A-sensitive channel. J Biol Chem. 1996 Jan 26;271(4):2185-92.

[5]. Fruman DA, et al. Calcineurin phosphatase activity in T lymphocytes is inhibited by FK 506 and cyclosporin A. Proc Natl Acad Sci U S A. 1992 May 1;89(9):3686-90.

[6]. Flanagan WM, et al. Nuclear association of a T-cell transcription factor blocked by FK-506 and cyclosporin A. Nature. 1991 Aug 29;352(6338):803-7.

[7]. Handschumacher RE, et al. Cyclophilin: a specific cytosolic binding protein for cyclosporin A. Science. 1984 Nov 2;226(4674):544-7.

[8]. Liu J, et al. Calcineurin is a common target of cyclophilin-cyclosporin A and FKBP-FK506 complexes. Cell. 1991 Aug 23;66(4):807-15.

[9]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. Ann Pharmacother. 2019 Feb;53(2):211-246.

Caution: Product has not been fully validated for medical applications. For research use only.

 Tel: 609-228-6898
 Fax: 609-228-5909
 E-mail: tech@MedChemExpress.com

 Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA