Datasheet

Product overview

Name: FK 506
Cat No: HB0289
Short description: Potent calcineurin phosphatase 2B inhibitor

Biological description: Potent calcineurin phosphatase 2B (PP2B) inhibitor (IC\textsubscript{50} = 2 nM). Interacts with FK-506 binding protein. Also inhibits IL-2 production by activated T-cells and reduces amount of GLUT4 on human adipocytes. Displays neuroprotective, antibiotic and immunosuppressant properties.

Alternative names: Tacrolimus; Fujimycin; FK-506

Biological action: Antibiotic

Purity: >99%

Properties

Chemical name: (3S,4R,5S,8R,9E,12S,14S,16S,18R,19R,26aS)-5,6,8,11,12,13,14,15,16,17,18,19,24,25,26,26a-Hexadecahydro-5,19-dihydroxy-3 ... ,10,12,18-tetramethyl-8-(2-propen-1-yl)-15,19-epoxy-3H-pyrido[2,1-c][1,4]oxaazacyclotricosine-1,7,20,21(4H,23H)tetrone
Molecular Weight: 804.02
Molecular Formula: C\textsubscript{44}H\textsubscript{69}NO\textsubscript{12}.H\textsubscript{2}O
CAS Number: 104987-11-3
PubChem identifier: 445643
SMILES: C[C@@H]1C[C@@H][(C@@H2][C@H]([C@H][C@@][O2](C(=O)C(=O)N3CCCC[C@H3C(-=O)O][C@@H][(C@@H][C@H][O2][C@@H][C@H]2O)
InChi: InChI=1S/C44H69NO12/c1-10-13-31-19-25(2)18-26(3)20-37(54-8)40-38(55-9)22-28(5)44(52,57-40)41(49)42(50)45-17-12-11-14-32(45 ... 9(29(6)34(47)24-35(31)48)27(4)21-30-15-16-33(46)36(23-30)53-7/h10,19,21,26,28-34,36-40,46-47,52H,1,11-18,20,22-24H2,2-9H3/
InChiKey: QJJXYPPXXYFBGM-NYOQZLQMSA-N
MDL number: MFCD11045918
Appearance: White to off-white

Storing and Using Your Product

Storage instructions: -20 °C
Solubility overview: Soluble in ethanol (100 mM) and DMSO (100 mM)
Important: This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use.

References for FK 506

Possible nitric oxide modulation in protective effect of FK-506 against 3-nitropropionic acid-induced behavioral, oxidative, neurochemical, and mitochondrial alterations in rat brain.

PubMedID: 20550427
The complex of FK506-binding protein 12 and FK506 inhibits calcineurin phosphatase activity and IgE activation-induced cytokine transcripts, but not exocytosis, in mouse mast cells.


PubMedID: 7530743

Cyclosporine A and Tacrolimus Reduce the Amount of GLUT4 at the Cell Surface in Human Adipocytes: Increased Endocytosis as a Potential Mechanism for the Diabetogenic Effects of Immunosuppressive Agents.


PubMedID: 25004245

Mode of action of tacrolimus (FK506): molecular and cellular mechanisms.


PubMedID: 8588225