

Product Name: Cyclosporin D, EvoPure®

Product Number: C045

CAS Number: 63775-96-2

Molecular Formula: $C_{63}H_{113}N_{11}O_{12}$

Molecular Weight: 1216.63 g/mol

Form: Powder

Appearance: White crystal powder

Source: *Tolypocladium inflatum*

Water Content (Karl Fischer): $\leq 3.0\%$

Melting Point: 148 -151 °C

Storage Conditions: -20°C

Description: Cyclosporin D is a hydroxylated metabolite of cyclosporin A. Cyclosporin D and other cyclosporin metabolites have been found to have lower (<10%) immunosuppressant activity than cyclosporin A. Cyclosporin D has been found to reverse daunorubicin resistance in some resistant leukemia cells by possibly inhibiting the efflux functions of P-glycoprotein.

For more cyclosporin products, [click here](#).

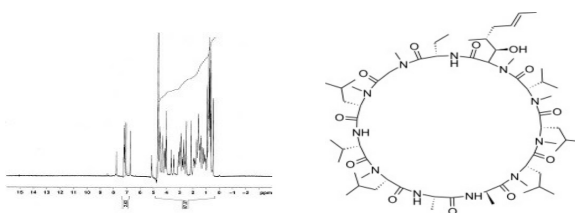
Mechanism of Action: Cyclosporin B (and other cyclosporin A metabolites) have lower immunosuppressive activity but likely operate under the same mechanism as cyclosporin A described below.

After entering a T-cell, Cyclosporin A associates with the cytosolic protein cyclophilin which helps in protein folding. Cyclosporin A binds to cyclophilins and this complex binds another cytosolic protein phosphatase called Calcineurin (protein phosphatase 2B) that dephosphorylates a transcription factor (nuclear factor of activated T-cells, or NF-AT) needed for expression of interleukin 2 (IL-2). It also blocks the pathway to nitric oxide synthesis via tumor necrosis factor (TNFa) and Interleukin 1a.

Cancer Applications Cyclosporin's immunosuppressive properties and potential toxicity can be studied during in vitro assays. Other metabolites of Cyclosporin A (AM1, AM1c, DihydroAM1, AM19, and AM4N) can also be studied (Vollenbroeker B et al, 2005).

Technical Data:

HNMR Spectra



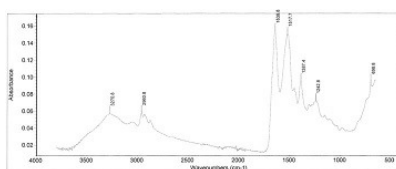
[Click to enlarge](#)

Solvent: CDC13

Instrument: Mercury 300

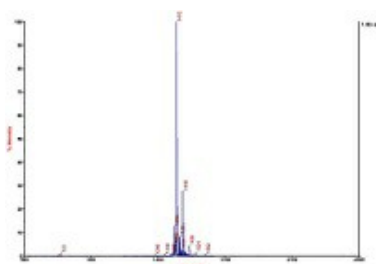
Frequency: 300 MHz

FTIR Spectra



[Click to enlarge](#)

Mass Spectra



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Polarity/Scan Type: Positive

Solvent: MeOH

Solution Concentration: 0.1 mg/mL

Instrument: Agilent

References:

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