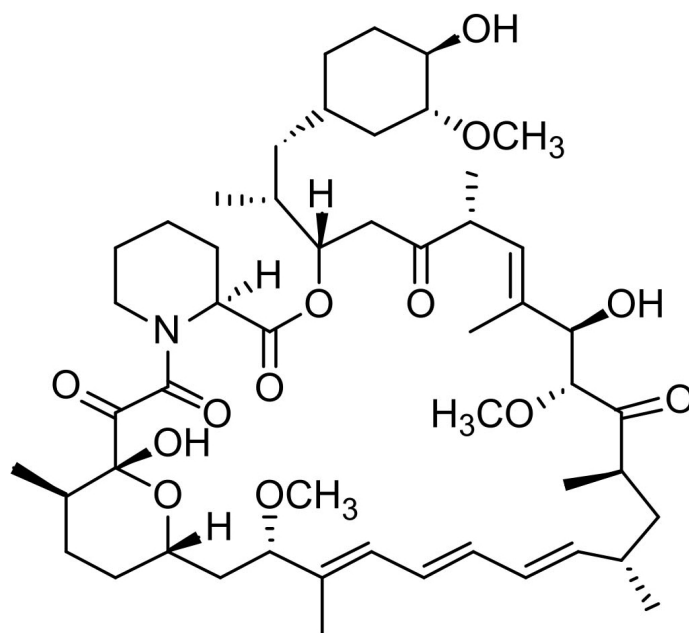


Rapamycin

Code No.: BIA-R1183

Pack sizes.: 25mg, 100mg



Synonyms:

Sirolimus, AY 22989, SIIA 9268A

Specifications

CAS #	: 53123-88-9
Molecular Formula	: C51H79NO13
Molecular Weight	: 914.2
Source	: -
Appearance	: White solid
Purity	: >99% by HPLC
Long Term Storage	: -20°C
Solubility	: Soluble in ethanol, methanol, DMF or DMSO. Limited water solubility.

Application Notes

Rapamycin is a triene macrolide discovered in 1974 as a metabolite of *Streptomyces hygroscopicus* found in a soil obtained on Rapa Nui (Easter Island). Rapamycin displayed potent and selective antifungal activity, notably against *Candida albicans*. Interest in the metabolite waned until the structural relationship to the potent immunosuppressant fujimycin (Antibiotic FK506) was recognised in the mid-1980s. This recognition led to the re-discovery of rapamycin as a highly selective antitumor and immunosuppressant. Rapamycin inhibits the activity of the protein, mTOR (mammalian target of rapamycin) which functions in a signalling pathway to promote tumor growth. Rapamycin binds to a receptor protein (FKBP12). The rapamycin/FKBP12 complex then binds to mTOR and prevents interaction of mTOR with target proteins in this signalling pathway.

References

1. Rapamycin (AY-22,989), a new antifungal antibiotic. I. Taxonomy of the producing streptomycete and isolation of the active principle. Vezina C. et al., J. Antibiot. 1975, 28, 721.
2. Rapamycin (AY-22,989), a new antifungal antibiotic. II. Fermentation, isolation and characterization. Sehgal S.N. et al., ; J. Antibiot. 1975, 28, 727.
3. Rapamycin, a potent immunosuppressive drug, causes programmed cell death in B lymphoma cells. Muthukkumar S. et al., Transplantation 1995, 60, 264.