

Rapamycin

Catalog Number :5318893

RUO: For Research Use Only. Not for use in diagnostic procedures.

Product Information

Synonyms: Sirolimus, Rapamune, AY 22989

Chemical Name: (3S,6R,7E,9R,10R,12R,14S,15E,17E,19E,21S,23S,26R,27R,34aS)-

9,10,12,13,14,21,22,23,24,25,26,27,32,33,34, 34a-hexadecahydro-9,27-dihydroxy-3-[(1R)-2-[(1S,3R,4R)-4-hydroxy-3-methoxycyclohexyl]-1-methylethyl]-10,21-dimethoxy-6,8,12,14,20,26-hexamethyl-23,27-epoxy-3H-pyrido[2,1-c][1,4]oxaazacyclohentacontine-1,5,11,28,29 (4H,6H,31H)-pentone

Molecular Formula: C₅₁H₇₉NO₁₃

Molecular Weight: 914.2

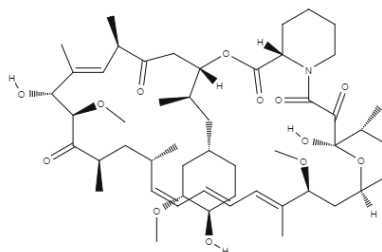
CAS Number: 53123-88-9

Purity: ≥95%

Applications: FA

Formulation: Crystalline solid

Storage: Product should be kept at -20°C.



Description

Rapamycin was first evaluated as an antifungal agent, but is now studied for its potent immunosuppressive and antiproliferative properties. It forms a complex with FKBP12 and directly binds to mTORC1, inhibiting the functions of the mTOR pathway. Rapamycin is reported to block protein synthesis, arrest cell cycle progression, and inhibit IL-2 signal transduction mechanisms.

Preparation & Storage

Soluble in organic solvents such as ethanol or DMSO. DMSO up to 10mg/ml.

References

1. Nourse, J., Firpo, E., Flanagan, W. M., Coats, S., Polyak, K., Lee, M. H., ... Roberts, J. M. (1994). Interleukin-2-mediated elimination of the p27Kip1 cyclin-dependent kinase inhibitor prevented by rapamycin.
2. Kuo, C. J., Chung, J., Fiorentino, D. F., Flanagan, W. M., Blenis, J., Crabtree, G. R. (1992). Rapamycin selectively inhibits interleukin-2 activation of p70 S6 kinase. Nature, 358(6381), 70-73.
3. Hidalgo, M., Rowinsky, E. K. (2000). The rapamycin-sensitive signal transduction pathway as a target for cancer therapy. Oncogene, 19(56), 6680-6686.