Rapamycin

An mTOR inhibitor that modulates cell growth, proliferation, and autophagy - frequently used in signaling pathway research and immunosuppressive studies.

Rapamycin is a macrocyclic-triene antibiotic with potent immunosuppressant activity. Rapamycin forms a complex with FKBP12 that binds to an effector, thus inhibiting IL-2 and other growth promoting lymphokines. The effectors were identified as FRAP (FKBP12 rapamycin-associated protein) and RAFT1 (rapamycin and KFBP12 target). Rapamycin/FKBP complex does not inhibit FRAP PI 4-kinase activity, but does inhibit FRAP autophosphorylation. Rapamycin induces inhibition of $p70^{s6k}$, $p33^{cdk2}$ and $p34^{cdc2}$. Rapamycin selectively blocks signaling leading to the activation of p70/85 S6 kinase. Rapamycin complexed with FKBP12 binds to and inhibits the activity of the mammalian target of rapamycin (mTOR) complex 1 (mTORC1). Rapamycin can inhibit cell growth, enhance apoptosis, and activates autophagy in a variety of cell types.

Citations: 127 View Online »

- Antibiotic with immunosuppressant and anti-cancer properties
- Commonly used to study autophagy in a variety of cells
- Highly cited

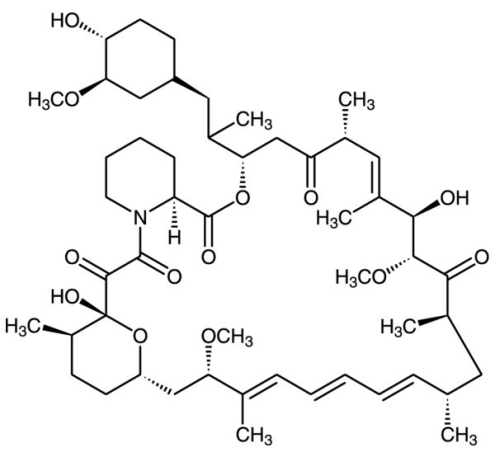
Ordering Information

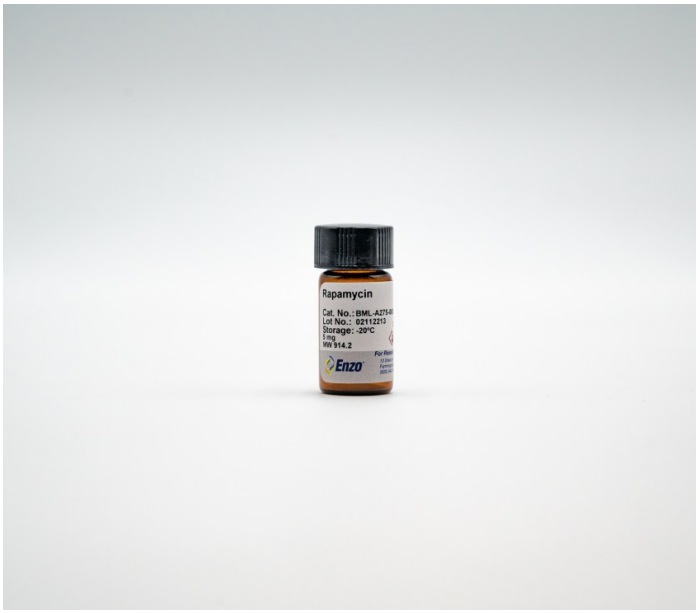
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BML-A275-0005	5mg
BML-A275-0025	25mg

Manuals, SDS & CofA

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HO
H3CO
CH3
CH3
O
O
N
H
O
O
OH
H3C
H3CO
O
O
HO
H3C
O
OCH3
H3C
CH3
CH3


Rapamycin
Enzo

Handling & Storage

Use/Stability	As indicated on product label or CoA when stored as recommended. Store, as supplied, at -20°C for up to 1 year. Store solutions at -20°C for up to 3 months.
Long Term Storage	-20°C
Shipping	Ambient Temperature

Regulatory Status

RUO - Research Use Only

Product Details

Alternative Name	Sirolimus, AY-22,989, RAPA, Rapamune
Appearance	Off-white or yellow solid.
CAS	53123-88-9
Couple Target	Immunophilin, mTOR
Couple Type	Inhibitor, Ligand
Formula	$C_{51}H_{79}NO_{13}$
MI	**14:** 8114
MW	914.2
Purity	≥98% (HPLC)
RTECS	VE6250000
Solubility	Soluble in chloroform, DMSO (25mg/ml), or 100% methanol.
Source	Isolated from *Streptomyces hygroscopus*
Technical Info / Product Notes	Replacement for **ADI-HPK-109**.

Last modified: May 29, 2024

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