**Product Specification Sheet**

**Product Name:** Rapamycin (Sirolimus)

**Catalog Number:** C7272-5 (powder)
C7272-5s (10mM in DMSO)

**Package Size:** 5 mg

**Technical Information:**
- **Chemical Formula:** C_{51}H_{79}NO_{13}
- **CAS #:** 53123-88-9
- **Molecular Weight:** 914.17
- **Purity:** >98%
- **Formulation:** White solid
- **Solubility:** Soluble in DMSO up to 50 mM

**Chemical Name:** (3S,6R,5E,3E,10R,13E,14S,15E,16E,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-[[15,3R,4R]-4-hydroxy-3-methoxy-cyclohexyl]-1-methylethyl]-10,21-dimethoxy-6,8,12,14,20,26-hexamethyl-23,27-epoxy-3H-pyrido[2,1-c][1,4]-oxaazacyclohexatriacontine-1,5,11,28,29(4H,6H,31H)-pentone

**Storage:** Store solid powder at 4°C desiccated; Store DMSO solution at -20°C.

**Handling:**
- For C7272-5 (powder), add 914 µL of DMSO to make 10 mM solution.
- For C7272-5s, before open the vial, centrifuge the vial at 500rpm x 1 min in a 50 mL conical tube to ensure full sample recovery.

**Biological Activity:** Rapamycin binds to the cytosolic protein FK-binding protein 12 (FKBP12) and inhibits mTOR pathway by directly binding to the mTOR Complex1 (mTORC1).
Rapamycin has variety of usages in vitro and in vivo. It is an immunosuppressant drug used to prevent rejection in organ transplantation. It showed lifespan extension in mice. Its antiproliferative effects led to treat tuberous sclerosis complex and several cancers.

**Reference:**
and cancer therapy”. Nature 2004;428 (6980): 332–7

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