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# Sirolimus

National Cancer Institute

## Source

National Cancer Institute. *Sirolimus*. NCI Thesaurus. Code C1212.

A natural macrocyclic lactone produced by the bacterium *Streptomyces hygroscopicus*, with immunosuppressant properties. In cells, sirolimus binds to the immunophilin FK Binding Protein-12 (FKBP-12) to generate an immunosuppressive complex that binds to and inhibits the activation of the mammalian Target Of Rapamycin (mTOR), a key regulatory kinase. This results in inhibition of T lymphocyte activation and proliferation that occurs in response to antigenic and cytokine (IL-2, IL-4, and IL-15) stimulation and inhibition of antibody production. (NCI04)