

**Everolimus**

1 mg



**Orders:** 877-616-CELL (2355)  
orders@cellsignal.com

**Support:** 877-678-TECH (8324)

**Web:** info@cellsignal.com  
cellsignal.com

3 Trask Lane | Danvers | Massachusetts | 01923 | USA

**For Research Use Only. Not for Use in Diagnostic Procedures.**

**Background**

Everolimus, also known as RAD001, is an immunosuppressant analog of rapamycin. Everolimus forms a complex with FKBP12 with an  $IC_{50} = \sim 2$  nM in FK506 competitive binding assays (1,2), and this complex then binds to and inhibits mTORC1 (3). Studies have shown that everolimus treatment of cells can lead to the dephosphorylation of mTOR downstream targets (4-7), inhibition of VEGF- and bFRF-stimulated proliferation in HUVE cells (6), and reduction of hypoxia-induced HIF-1 protein levels (7).

**Molecular Formula**

$C_{53}H_{83}NO_{14}$

**Molecular Weight**

958.22 g/mol

**Purity**

>99%

**CAS**

159351-69-6

**Solubility**

Soluble in DMSO and EtOH at 100mg/ml.

**Storage**

Store lyophilized or in solution at -20°C, desiccated. Protect from light. In lyophilized form, the chemical is stable for 24 months. Once in solution, use within 3 months to prevent loss of potency. Aliquot to avoid multiple freeze/thaw cycles.

**Directions for Use**

Everolimus is supplied as a lyophilized powder. For a 1 mM stock, reconstitute the 1 mg in 1.04 ml DMSO. Working concentrations and length of treatment can vary depending on the desired effect, but it is typically used at 10-100 nM either as a pretreatment for 0.5-1 hr prior to treating with a stimulator or is used alone with varying treatment times lasting up to 24 hr. Soluble in DMSO or ethanol at 100 mg/ml; very poorly soluble in water with maximum solubility  $\sim 1$ -10  $\mu$ M.

**Background References**

1. Sedrani, R. et al. (1998) *Transplant Proc* 30, 2192-4.
2. Schuler, W. et al. (1997) *Transplantation* 64, 36-42.
3. Houghton, P.J. (2010) *Clin Cancer Res* 16, 1368-72.
4. Rosich, L. et al. (2012) *Clin Cancer Res* 18, 5278-89.
5. Cao, C. et al. (2006) *Cancer Res* 66, 10040-7.
6. Lane, H.A. et al. (2009) *Clin Cancer Res* 15, 1612-22.
7. Knaup, K.X. et al. (2009) *Mol Cancer Res* 7, 88-98.

**Trademarks and Patents**

Cell Signaling Technology is a trademark of Cell Signaling Technology, Inc.

All other trademarks are the property of their respective owners. Visit [cellsignal.com/trademarks](http://cellsignal.com/trademarks) for more information.

**Limited Uses**

Except as otherwise expressly agreed in a writing signed by a legally authorized representative of CST, the following terms apply to Products provided by CST, its affiliates or its distributors. Any Customer's terms and conditions that are in addition to, or different from, those contained herein, unless separately accepted in writing by a legally authorized representative of CST, are rejected and are of no force or effect.

Products are labeled with For Research Use Only or a similar labeling statement and have not been approved, cleared, or licensed by the FDA or other regulatory foreign or domestic entity, for any purpose. Customer shall not use any Product for any diagnostic or therapeutic purpose, or otherwise in any manner that conflicts with its labeling statement. Products sold or licensed by CST are provided for Customer as the end-user and solely for research and development uses. Any use of Product for diagnostic, prophylactic or therapeutic purposes, or any purchase of Product for resale (alone or as a component) or other commercial purpose, requires a separate license from CST. Customer shall (a) not sell, license, loan, donate or otherwise transfer or make available any Product to any third party, whether alone or in combination with other materials, or use the Products to manufacture any commercial products, (b) not copy, modify, reverse engineer, decompile, disassemble or otherwise attempt to discover the underlying structure or technology of the Products, or use the Products for the purpose of developing any products or services that would compete with CST products or services, (c)

not alter or remove from the Products any trademarks, trade names, logos, patent or copyright notices or markings, (d) use the Products solely in accordance with CST Product Terms of Sale and any applicable documentation, and (e) comply with any license, terms of service or similar agreement with respect to any third party products or services used by Customer in connection with the Products.