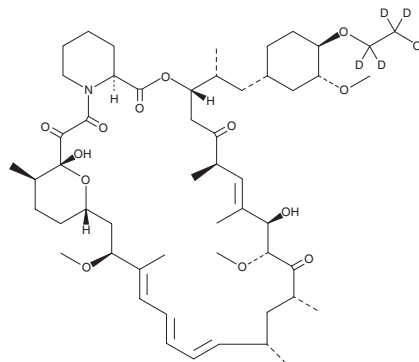


PRODUCT INFORMATION



Everolimus-d₄ Item No. 22559

CAS Registry No.: 1338452-54-2
Formal Name: 42-O-(2-hydroxyethyl-1,1,2,2-d₄)-rapamycin
MF: C₅₃H₇₉D₄NO₁₄
FW: 962.3
Chemical Purity: ≥80% (Everolimus)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₄); ≤1% d₀
Supplied as: A solid
Storage: 4°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Everolimus-d₄ is intended for use as an internal standard for the quantification of everolimus (Item No. 11597) by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated versus unlabeled).

Everolimus-d₄ is supplied as a solid. A stock solution may be made by dissolving the everolimus-d₄ in the solvent of choice, which should be purged with an inert gas. Everolimus-d₄ is soluble in organic solvents such as methanol and chloroform.

Description

Everolimus is a hydroxyethyl ether form of rapamycin (Item No. 13346) that inhibits mTOR signaling through both mTORC1 and mTORC2 when added to cells at 20 nM.^{1,2} It is orally available and shows improved pharmacokinetics and pharmacodynamics over rapamycin.² Through its inhibition of mTOR, everolimus inhibits cell proliferation, metabolism, and angiogenesis in certain types of cancer.^{3,4} It also acts as an immunosuppressive agent in the context of organ transplantation.

References

1. Zeng, Z., Sarbassov, D.D., Samudio, I.J., *et al.* Rapamycin derivatives reduce mTORC2 signaling and inhibit AKT activation in AML. *Blood* **109**(8), 3509-3512 (2007).
2. Lebowitz, D., Anak, Ö., Sahmoud, T., *et al.* Development of everolimus, a novel oral mTOR inhibitor, across a spectrum of diseases. *Ann. N.Y. Acad. Sci.* **1291**, 14-32 (2013).
3. Yunokawa, M., Koizumi, F., Kitamura, Y., *et al.* Efficacy of everolimus, a novel mTOR inhibitor, against basal-like triple-negative breast cancer cells. *Cancer Sci.* **103**(9), 1665-1671 (2012).
4. Gurk-Turner, C., Manitpisitkul, W., and Cooper, M. A comprehensive review of everolimus clinical reports: A new mammalian target of rapamycin inhibitor. *Transplantation* **94**(7), 659-668 (2012).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY

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