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- Trockeneiszuschlag
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- Expressversand

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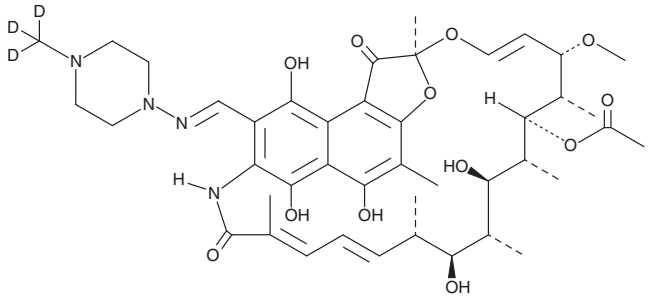
PRODUCT INFORMATION

Rifampicin-d_3

Item No. 27848

CAS Registry No.:	1262052-36-7
Formal Name:	3-[[(4-(methyl-d_3)-1-piperazinyl)imino] methyl]-rifamycin
Synonym:	Rifampin-d_3
MF:	$C_{43}H_{55}D_3N_4O_{12}$
FW:	826.0
Chemical Purity:	≥98% (Rifampicin)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_3); ≤1% d_0
Supplied as:	A solid
Storage:	-20°C
Stability:	≥2 years



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

Laboratory Procedures

Rifampicin-d_3 is intended for use as an internal standard for the quantification of rifampicin (Item No. 14423) 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).

Rifampicin-d_3 is supplied as a solid. A stock solution may be made by dissolving the rifampicin-d_3 in the solvent of choice, which should be purged with an inert gas. Rifampicin-d_3 is slightly soluble in chloroform and methanol.

Description

Rifampicin is a rifamycin antibiotic and inhibitor of bacterial RNA polymerase (IC_{50} = 0.01 µg/ml for the *E. coli* enzyme).[1] It inhibits the growth of *M. tuberculosis* H37Rv in mouse peritoneal macrophages (MIC = 0.8 µg/ml) as well as clinical isolates of various species of *Staphylococcus*, *Streptococcus*, *Haemophilus*, and *Neisseria* (MICs = 0.009-1.4 µg/ml).[2,3] Rifampicin increases survival in a mouse model of tuberculosis infection.[3] It is also an agonist of the human pregnane X receptor (PXR; EC_{50} = ~2 µM).[4] Formulations containing rifampicin have been used in the treatment of tuberculosis and meningococcal carriers.

References

1. Wehrli, W. Rifampin: Mechanisms of action and resistance. *Rev. Infect. Dis.* **5(3)**, S407-S411 (1983).
2. Jhamb, S.S., Goyal, A., and Singh, P.P. Determination of the activity of standard anti-tuberculosis drugs against intramacrophage *Mycobacterium tuberculosis*, *in vitro*: MGIT 960 as a viable alternative for BACTEC 460. *Braz. J. Infect. Dis.* **18(3)**, 336-340 (2014).
3. Arioli, V., Berti, M., Carniti, G., *et al.* Antibacterial activity of DL 473, a new semisynthetic rifamycin derivative. *J. Antibiot. (Tokyo)* **34(8)**, 1026-1032 (1981).
4. Gill, S.K., Xu, H., Kirchhoff, P.D., *et al.* Structure-based design of novel benzoxazinorifamycins with potent binding affinity to wild-type and rifampin-resistant mutant *Mycobacterium tuberculosis* RNA polymerases. *J. Med. Chem.* **55(8),** 3814-3826 (2012).

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