

Product Data Sheet

Product Name: Rifampicin-d3

Cat. No.: GC48048

Chemical Properties

Cas. No. 1262052-36-7

SMILES OC1=C2C(C(O)=C(C)C(O[C@]3(C)O/C=C/[C@H](OC)[C@H](C)[C@]([C@H](C)[C@H](O)[C@H](C)[C@@H](O)[C@@H](C)/C=C/C=C(C)/C(N4)=O)(OC(C)=O)[H])=C2C3=O)=C(O)C4=C1/C=N/N5CCN(C([2H])([2H])[2H])CC5

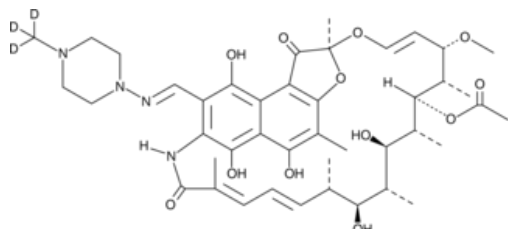
Formula C43H55D3N4O12 M.Wt 826

Solubility Chloroform: slightly soluble, Methanol: slightly soluble Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure



Background

Rifampicin-d3 is intended for use as an internal standard for the quantification of rifampicin by GC- or LC-MS. Rifampicin is a rifamycin antibiotic and inhibitor of bacterial RNA polymerase ($IC_{50} = 0.01 \mu\text{g/ml}$ for the *E. coli* enzyme).¹ It inhibits the growth of *M. tuberculosis* H37Rv in mouse peritoneal macrophages ($MIC = 0.8 \mu\text{g/ml}$) as well as clinical isolates of various species of *Staphylococcus*, *Streptococcus*, *Haemophilus*, and *Neisseria* ($MICs = 0.009-1.4 \mu\text{g/ml}$).^{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; $EC_{50} = \sim 2 \mu\text{M}$).⁴ Formulations containing rifampicin have been used in the treatment of tuberculosis and meningococcal carriers.

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

Product Data Sheet

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 *Journal of Medicinal Chemistry* 55(8) 3814-3826 (2012)

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA