Product Data Sheet

Product Name: Sulfamethazine-D4
Cat. No.: GC61303

Chemical Properties

Cas. No.	1020719-82-7		
SMILES	O=S(C1=C([2H])C([2H])=C(N)C([2H])=C1[2H])(NC2=NC(C)=CC(C)=N2)=O		
Formula	$C_{12}H_{10}D_4N_4O_2S$	M.Wt	282.35
Solubility		Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ 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	Sulfamethazine-D4		

Background

Sulfamethazine-d_4 is intended for use as an internal standard for the quantification of sulfamethazine by GC- or LC-MS. Sulfamethazine is a sulfonamide antibiotic.[1,2] It inhibits dihydropteroate synthase (DHPS; IC_{50} = 5.7 ?M for the *T. gondii* enzyme). Sulfamethazine is active against *A. pleuropneumoniae* (MIC = 32 ?g/ml) and enhances the antibacterial activity of trimethoprim against *E. coli*.[3,4] It has been detected in environmental water samples.[5,6] Formulations containing sulfamethazine have been used in the treatment of bacterial infections in livestock.

1.Allegra, C.J., Boarman, D., Kovacs, J.A., et al.Interaction of sulfonamide and sulfone compounds with Toxoplasma gondii dihydropteroate synthaseJ. Clin. Invest.85(2)371-379(1990) 2.Salmon, S.A., Watts, J.L., Case, C.A., et al.Comparison of MICs of ceftiofur and other antimicrobial agents against bacterial pathogens of swine from the United States, Canada, and DenmarkJ. Clin. Microbiol.33(9)2435-2444(1995) 3.Mengelers, M.J., Hougee, P.E., Janssen, L.H., et al.Structure-activity relationships between antibacterial activities and physicochemical properties of sulfonamidesJ. Vet. Pharmacol. Ther.20(4)276-283(1997) 4.Peng, F.-J., Ying, G.-G., Liu, Y.-S., et al.Joint antibacterial

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com
Address: 10292 Central Ave. #205, Montclair, CA, USA

activity of soil-adsorbed antibiotics trimethoprim and sulfamethazineSci. Total Environ.506-50758-65(2015) 5.Washington, M.T., Moorman, T.B., Soupir, M.L., et al.Monitoring tylosin and sulfamethazine in a tile-drained agricultural watershed using polar organic chemical integrative sampler (POCIS)Sci. Total. Environ.612358-367(2017) 6.López-Serna, R., Petrovi?, M., and Barceló, D.Direct analysis of pharmaceuticals, their metabolites and transformation products in environmental waters using on-line TurboFlow? chromatography-liquid chromatography-tandem mass spectrometryJ. Chomatogr. A.1252115-129(2012)