



# SZABO SCANDIC

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## Produktinformation



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Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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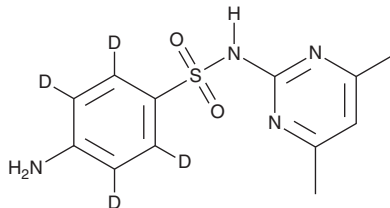
# PRODUCT INFORMATION



## Sulfamethazine-d<sub>4</sub>

Item No. 36575

**CAS Registry No.:** 1020719-82-7  
**Formal Name:** 4-amino-N-(4,6-dimethyl-2-pyrimidinyl)-benzene-2,3,5,6-d<sub>4</sub>-sulfonamide  
**Synonyms:** Sulfadimethyldiazine-d<sub>4</sub>, Sulfadimidine-d<sub>4</sub>  
**MF:** C<sub>12</sub>H<sub>10</sub>D<sub>4</sub>N<sub>4</sub>O<sub>2</sub>S  
**FW:** 282.4  
**Chemical Purity:** ≥98% Sulfamethazine  
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>4</sub>); ≤1% d<sub>0</sub>  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:** ≥4 years



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

### Laboratory Procedures

Sulfamethazine-d<sub>4</sub> is intended for use as an internal standard for the quantification of sulfamethazine (Item No. 20976) 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).

Sulfamethazine-d<sub>4</sub> is supplied as a solid. A stock solution may be made by dissolving the sulfamethazine-d<sub>4</sub> in the solvent of choice, which should be purged with an inert gas. Sulfamethazine-d<sub>4</sub> is slightly soluble in DMSO and methanol (warmed).

### Description

Sulfamethazine is a sulfonamide antibiotic.<sup>1,2</sup> It inhibits dihydropteroate synthase (DHPS; IC<sub>50</sub> = 5.7 μM for the *T. gondii* enzyme). Sulfamethazine is active against *A. pleuropneumoniae* (MIC = 32 μg/ml) and enhances the antibacterial activity of trimethoprim (Item No. 16473) against *E. coli*.<sup>3,4</sup> It has been detected in environmental water samples.<sup>5,6</sup> Formulations containing sulfamethazine have been used in the treatment of bacterial infections in livestock.

### References

- Allegra, C.J., Boorman, D., Kovacs, J.A., *et al.* Interaction of sulfonamide and sulfone compounds with *Toxoplasma gondii* dihydropteroate synthase. *J. Clin. Invest.* **85**(2), 371-379 (1990).
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- Mengelers, M.J., Hougee, P.E., Janssen, L.H., *et al.* Structure-activity relationships between antibacterial activities and physicochemical properties of sulfonamides. *J. Vet. Pharmacol. Ther.* **20**(4), 276-283 (1997).
- Peng, F.-J., Ying, G.-G., Liu, Y.-S., *et al.* Joint antibacterial activity of soil-adsorbed antibiotics trimethoprim and sulfamethazine. *Sci. Total Environ.* **506-507**, 58-65 (2015).
- 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.* **612**, 358-367 (2017).
- López-Serna, R., Petrović, 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 spectrometry. *J. Chromatogr. A.* **1252**, 115-129 (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.

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