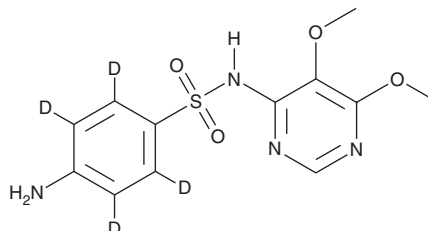


PRODUCT INFORMATION



Sulfadoxin-d₄ Item No. 37200

CAS Registry No.: 1330266-05-1
Formal Name: 4-amino-N-(5,6-dimethoxy-4-pyrimidinyl)-benzenesulfonamide-d₄
Synonym: Ro 4-4393-d₄
MF: C₁₂H₁₀D₄N₄O₄S
FW: 314.4
Chemical Purity: ≥98% (Sulfadoxin)
Deuterium Incorporation: ≥99% deuterated forms (d₁-d₄); ≤1% d₀
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

Sulfadoxin-d₄ is intended for use as an internal standard for the quantification of sulfadoxin (Item No. 21488) 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).

Sulfadoxin-d₄ is supplied as a solid. A stock solution may be made by dissolving the sulfadoxin-d₄ in the solvent of choice, which should be purged with an inert gas. Sulfadoxin-d₄ is soluble in DMSO, methanol, and acetone.

Description

Sulfadoxin is a sulfonamide antibiotic that inhibits dihydropteroate synthetase (DHPS), an enzyme involved in folic acid (Item No. 20515) synthesis.¹ Sulfadoxin competes with 4-aminobenzoate (PABA), the native substrate of DHPS, and inhibits PABA incorporation into folic acid.² Folate is essential for purine and pyrimidine synthesis, therefore, sulfadoxin has antiproliferative activity in non-resistant *P. falciparum*.^{2,3} Sulfadoxin inhibits growth of *P. falciparum* *in vitro*, but potency varies between non-resistant (IC₅₀ = 4 ng/ml) and resistant strains (IC₅₀ = 3,970 ng/ml).³

References

1. Brooks, D.R., Wang, P., Read, M., *et al.* Sequence variation of the hydroxymethyldihydropterin pyrophosphokinase: dihydropteroate synthase gene in lines of the human malaria parasite, *Plasmodium falciparum*, with differing resistance to sulfadoxine. *Eur. J. Biochem.* **224**(2), 397-405 (1994).
2. Hyde, J.E. Exploring the folate pathway in *Plasmodium falciparum*. *Acta. Trop.* **94**(3), 191-206 (2005).
3. Wang, P., Read, M., Sims, P.F.G., *et al.* Sulfadoxine resistance in the human malaria parasite *Plasmodium falciparum* is determined by mutations in dihydropteroate synthetase and an additional factor associated with folate utilization. *Mol. Microbiol.* **23**(5), 979-986 (1997).

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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