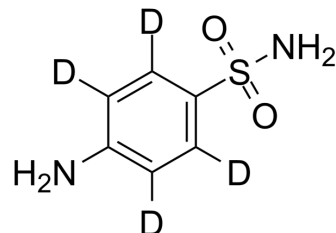


## Sulfanilamide-d<sub>4</sub>

<b>Cat. No.:</b>	HY-B0242S1		
<b>CAS No.:</b>	77435-46-2		
<b>Molecular Formula:</b>	C <sub>6</sub> H <sub>4</sub> D <sub>4</sub> N <sub>2</sub> O <sub>2</sub> S		
<b>Molecular Weight:</b>	176.23		
<b>Target:</b>	Bacterial; Antibiotic		
<b>Pathway:</b>	Anti-infection		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### BIOLOGICAL ACTIVITY

<b>Description</b>	Sulfanilamide-d <sub>4</sub> is the deuterium labeled Sulfanilamide. Sulfanilamide is a competitive inhibitor for bacterial enzyme dihydropteroate synthetase with IC <sub>50</sub> of 320 μM.
<b>In Vitro</b>	Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs <sup>[1]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

### REFERENCES

- [1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother*. 2019;53(2):211-216.
- [2]. McCullough, J.L. and T.H. Maren, Inhibition of dihydropteroate synthetase from *Escherichia coli* by sulfones and sulfonamides. *Antimicrob Agents Chemother*, 1973. 3(6): p. 665-9.
- [3]. Meneau, I., et al., *Pneumocystis jirovecii* dihydropteroate synthase polymorphisms confer resistance to sulfadoxine and sulfanilamide in *Saccharomyces cerevisiae*. *Antimicrob Agents Chemother*, 2004. 48(7): p. 2610-6.
- [4]. Hughes, W.T. and J. Killmar, Monodrug efficacies of sulfonamides in prophylaxis for *Pneumocystis carinii* pneumonia. *Antimicrob Agents Chemother*, 1996. 40(4): p. 962-5.

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

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