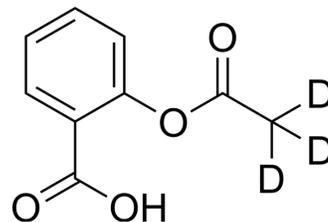


Aspirin-d₃

Cat. No.:	HY-14654S		
CAS No.:	921943-73-9		
Molecular Formula:	C ₉ H ₅ D ₃ O ₄		
Molecular Weight:	183.18		
Target:	COX; Autophagy; Mitophagy; Virus Protease		
Pathway:	Immunology/Inflammation; Autophagy; Anti-infection		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (545.91 mM; Need ultrasonic)

Concentration	Solvent	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	5.4591 mL	27.2956 mL	54.5911 mL
	5 mM	1.0918 mL	5.4591 mL	10.9182 mL
	10 mM	0.5459 mL	2.7296 mL	5.4591 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Aspirin-d₃ is the deuterium labeled Aspirin. Aspirin is a non-selective and irreversible inhibitor of COX-1 and COX-2 with IC50s of 5 and 210 µg/mL.

In Vitro

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^[1].

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]. Mitchell JA, et al. Selectivity of nonsteroidal antiinflammatory drugs as inhibitors of constitutive and inducible cyclooxygenase. *Proc Natl Acad Sci U S A.* 1993 Dec 15;90(24):11693-7.; Vane JR, et al. The mechanism of action of aspirin. *Thromb Res.* 2003 Jun 15;110(5-6):255-8.; Wu KK, et al. Aspirin and other cyclooxygenase inhibitors:

new therapeutic insights. *Semin Vasc Med.* 2003 May;3(2):107-12.;Kopp E, et al. Inhibition of NF-kappa B by sodium salicylate and aspirin. *Science.* 1994 Aug 12;265(5174):956-9.;Blanco FJ, et al. Effect of antiinflammatory drugs on COX-1 and COX-2 activity in human articular chondrocytes. *J Rheumatol.* 1999 Jun;26(6):1366-73.

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

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