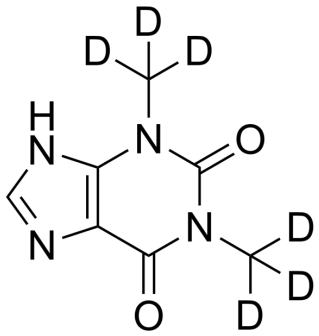
Theophylline-d_6

Cat. No.:	HY-B0809S
CAS No.:	117490-39-8
Molecular Formula:	$C_7H_2D_6N_4O_2$
Molecular Weight:	186.2
Target:	Phosphodiesterase (PDE); Adenosine Receptor; Autophagy; Endogenous Metabolite
Pathway:	Metabolic Enzyme/Protease; GPCR/G Protein; Autophagy
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



BIOLOGICAL ACTIVITY

Description	Theophylline-d_6 is the deuterium labeled Theophylline. Theophylline is a nonselective phosphodiesterase (PDE) inhibitor, adenosine receptor blocker, and histone deacetylase (HDAC) activator.
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]. Deree J, et al. Insights into the regulation of TNF-alpha production in human mononuclear cells: the effects of non-specific phosphodiesterase inhibition. Clinics (Sao Paulo). 2008 Jun;63(3):321-8.

[3]. Marques LJ, et al. Pentoxifylline inhibits TNF-alpha production from human alveolar macrophages. Am J Respir Crit Care Med. 1999 Feb;159(2):508-11.

[4]. Daly JW, et al. Adenosine receptors: development of selective agonists and antagonists. Prog Clin Biol Res. 1987;230:41-63.

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