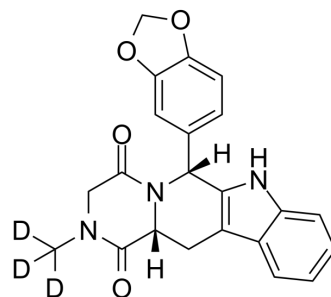


## Tadalafil-d3

<b>Cat. No.:</b>	HY-90009S		
<b>CAS No.:</b>	960226-55-5		
<b>Molecular Formula:</b>	C <sub>22</sub> H <sub>16</sub> D <sub>3</sub> N <sub>3</sub> O <sub>4</sub>		
<b>Molecular Weight:</b>	392.42		
<b>Target:</b>	Phosphodiesterase (PDE)		
<b>Pathway:</b>	Metabolic Enzyme/Protease		
<b>Storage:</b>	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	6 months
		-20°C	1 month



### SOLVENT & SOLUBILITY

#### In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline  
Solubility: ≥ 2.5 mg/mL (6.37 mM); Clear solution

### BIOLOGICAL ACTIVITY

#### Description

Tadalafil-d3 (IC-351-d3) is the deuterium labeled Nortadalafil. Nortadalafil is demethyl Tadalafil, which is a PDE5 inhibitor, currently marketed in pill form for treating erectile dysfunction (ED) under the name Cialis; and under the name Adcirca for the treatment of pulmonary arterial hypertension.

#### 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<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]. Beghyn, et al. PDE5 inhibitors: An original access to novel potent arylated analogues of tadalafil. *Bioorganic & Medicinal Chemistry Letters* (2007), 17(3), 789-792.
- [3]. Daugan, et al. The discovery of tadalafil: a novel and highly selective PDE5 inhibitor. 2: 2,3,6,7,12,12a-hexahydropyrazino[1',2':1,6]pyrido[3,4-b]indole-1,4-dione analogue. *Journal of Medicinal Chemistry* (2003), 46(21), 4533-4542.
- [4]. Porst H, et al. Chronic PDE-5 inhibition in patients with erectile dysfunction - a treatment approach using tadalafil once-daily. *Expert Opin Pharmacother.* 2012 Jul;13(10):1481-94.
- [5]. Frey MK, Lang I. Tadalafil for the treatment of pulmonary arterial hypertension. *Expert Opin Pharmacother.* 2012 Apr;13(5):747-55.

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

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