Tetrabenazine-d_6

Cat. No.: HY-B0590S

CAS No.: 1392826-25-3

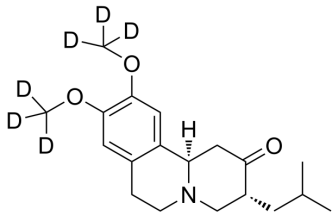
Molecular Formula: $C_{19}H_{21}D_6NO_3$

Molecular Weight: 323.46

Target: Monoamine Transporter

Pathway: Membrane Transporter/Ion Channel

Storage: 4°C, protect from light
* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 33.33 mg/mL (103.04 mM; Need ultrasonic)
H2O : 0.1 mg/mL (0.31 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.0916 mL	15.4579 mL	30.9157 mL
5 mM	0.6183 mL	3.0916 mL	6.1831 mL
10 mM	0.3092 mL	1.5458 mL	3.0916 mL

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

BIOLOGICAL ACTIVITY

Description

Tetrabenazine-d_6 (Deutetrabenazine) is a deuterium-labled Tetrabenazine (HY-B0590), is the first deuterium approved worldwide for the research of Huntington's disease, or other hyperkinetic movement disorders[1].

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].
Potential advantages of deuterated compounds:
(1) Extend the half-life in vivo. Deuterated compounds may be able to prolong the pharmacokinetic characteristics of the compound, that is, prolong the half-life in vivo. This can improve compound safety, efficacy and tolerability, and increase ease of administration.
(2) Improve oral bioavailability. Deuterated compounds may reduce the degree of unwanted metabolism (first-pass metabolism) in the gut wall and liver, allowing a greater proportion of the unmetabolized drug to reach its target site of action. High bioavailability determines its activity at low doses and better tolerance.
(3) Improve metabolic characteristics. Deuterated compounds may reduce the formation of toxic or reactive metabolites and improve drug metabolism.
(4) Improve drug safety. Deuterated compounds may reduce or eliminate adverse side effects of pharmaceutical

	compounds and are safe. (5) Preserve the therapeutic properties. Deuterated compounds are expected to retain similar biochemical potency and selectivity to hydrogen analogs in previous studies. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

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