# Moclobemide-$d_4$

**Cat. No.:** HY-B0534S1

**Molecular Formula:** $C_{13}H_{13}D_4ClN_2O_2$

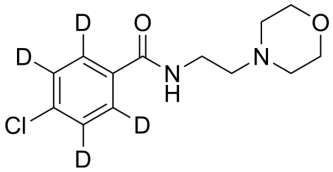
**Molecular Weight:** 272.76

**Target:** Monoamine Oxidase

**Pathway:** Neuronal Signaling

**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 (366.62 mM; Need ultrasonic)

**Preparing Stock Solutions**

| Mass / Solvent / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|
| 1 mM | 3.6662 mL | 18.3311 mL | 36.6623 mL |
| 5 mM | 0.7332 mL | 3.6662 mL | 7.3325 mL |
| 10 mM | 0.3666 mL | 1.8331 mL | 3.6662 mL |

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

## BIOLOGICAL ACTIVITY

**Description**

Moclobemide-$d_4$ is deuterium labeled Moclobemide. Moclobemide (Ro111163) is a brain-penetrant and reversible monoamine oxidase (MAO-A) inhibitor with an IC50 of 6.061 μM for hMAO-A[1].Moclobemide up-regulates proliferation of hippocampal progenitor cells in chronically stressed mice.

**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]. Nafiz Öncü Can, et al. Synthesis of New Hydrazone Derivatives for MAO Enzymes Inhibitory Activity. Molecules. 2017 Aug 20;22(8):1381.

[3]. Yun-feng Li, et al. Moclobemide up-regulates proliferation of hippocampal progenitor cells in chronically stressed mice. Acta Pharmacol Sin. 2004 Nov;25(11):1408-12.



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