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## Product Data Sheet

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Product Name: Methionine-d4

Cat. No.: GC69454

### Chemical Properties

Cas. No.

Formula  $C_5H_7D_4NO_2S$  M.Wt 153.24

Solubility Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure

### Background

Methionine-d<sub>4</sub> is the deuterium labeled Methionine. Methionine (MRX-1024; D-Methionine) is an effective chemoprotective agent which can also inhibit the neuronal activity through GABA<sub>A</sub> receptor activation.

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>.

[1]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. *Ann Pharmacother.* 2019;53(2):211-216.

[2]. Wu C, et al. Antioxidants L-carnitine and D-methionine modulate neuronal activity through GABAergic inhibition. *J Neural Transm (Vienna).* 2014 Jul;121(7):683-93.

[3]. Sooriyaarachchi M, et al. Chemoprotection by D-methionine against cisplatin-induced side-effects: insight from in vitro studies using human plasma. *Metallomics.* 2014 Mar;6(3):532-41.

[4]. Hinduja S, et al. D-methionine protects against cisplatin-induced neurotoxicity in the hippocampus of the adult rat. *Neurotox Res.* 2015 Apr;27(3):199-204.

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

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