
Product Data Sheet

Product Name: Ramelteon metabolite M-II-d3

Cat. No.: GC68331

Chemical Properties

Cas. No. 1246812-22-5

Formula $C_{16}H_{18}D_3NO_3$ M.Wt 278.36

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 sizes: ship with RT, or blue ice upon request.

Structure **Background**

Ramelteon metabolite M-II-d3 is the deuterium labeled Ramelteon metabolite M-II. Ramelteon metabolite M-II is the major metabolite of Ramelteon, with IC_{50} s of 208 pM, 1470 pM for human melatonin receptors (MT_1 or MT_2). Ramelteon is a selective melatonin agonist^{[1][2]}.

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].

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

[2]. Nishiyama K, et al. Pharmacological characterization of M-II, the major human metabolite of ramelteon. *Pharmacology.* 2014;93(3-4):197-201.

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

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