

Product Data Sheet

Product Name: Etomidate-d5

Cat. No.: GC91705

Chemical Properties

Cas. No. N/A

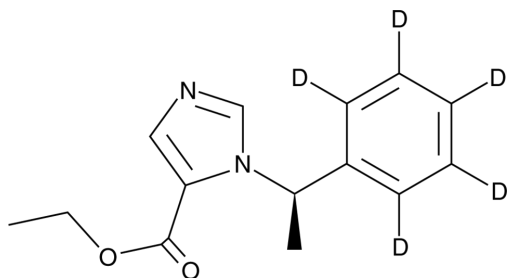
Formula $C_{14}H_{11}D_5N_2O_2$ M.Wt 249.3

Solubility DMF: soluble, DMSO: soluble, Ethanol: soluble, Methanol: soluble
Storage -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

Etomidate-d₅ is intended for use as an internal standard for the quantification of etomidate by GC- or LC-MS. Etomidate is a general anesthetic.^[1] It selectively binds to GABA_A receptors over voltage-gated sodium channels (Na_v) and L-type voltage-gated calcium channels (Ca_v; IC₅₀s = 15.7, 387, and 950 μM, respectively).^[2] Etomidate also inhibits the cytochrome P450 (CYP) isoforms CYP11B1 and CYP11B2 (IC₅₀s = 0.5 and 0.1 nM, respectively), enzymes involved in cortisol and aldosterone biosynthesis, respectively.^[3] It inhibits the production of deoxycortisol and 17α-hydroxy progesterone induced by adrenocorticotrophic hormone (ACTH) in dispersed adrenocortical cells isolated from patients with Cushing's syndrome.^[4] Etomidate (3 mg/kg) induces anesthesia and increases the minimum convulsive dose of pentylenetetrazole during the recovery period, but also induces

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

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myoclonus, in mice.^[1] Formulations containing etomidate have been used as general anesthetics.

References:

- [1].Lowson, S., Gent, J.P., and Goodchild, C.S.Convulsive thresholds in mice during the recovery phase from anaesthesia induced by propofol, thiopentone, methohexitone and etomidateBr. J. Pharmacol.102(4)879-882(1991).
- [2].Lingamaneni, R., and Hemmings, H.C., Jr.Differential interaction of anaesthetics and antiepileptic drugs with neuronal Na⁺ channels, Ca²⁺ channels, and GABAA receptorsBr. J. Anaesth.90(2)199-211(2003).
- [3].Hille, U.E., Zimmer, C., Vock, C.A., et al.First selective CYP11B1 inhibitors for the treatment of cortisol-dependent diseasesACS Med. Chem. Lett.2(1)2-6(2010).
- [4].Lamberts, S.W., Bons, E.G., Bruining, H.A., et al.Differential effects of the imidazole derivatives etomidate, ketoconazole and miconazole and of metyrapone on the secretion of cortisol and its precursors by human adrenocortical cellsJ. Pharmacol. Exp. Ther.240(1)259-264(1987).

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