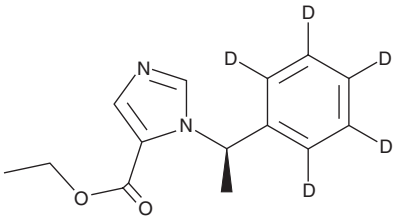
PRODUCT INFORMATION

Etomidate-d_5

Item No. 40297

Formal Name:	1-[(1R)-1-(phenyl-d_5)ethyl]1H-imidazole-5-carboxylic acid ethyl ester
Synonyms:	(+)-Etomidate-d_5, d-Etomidate-d_5, (R)-Etomidate-d_5
MF:	$C_{14}H_{11}D_5N_2O_2$
FW:	249.3
Chemical Purity:	≥95% (Etomidate)
Deuterium Incorporation:	≥99% deuterated forms (d_1-d_5); ≤1% d_0
Supplied as:	A neat liquid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Etomidate-d_5 is intended for use as an internal standard for the quantification of etomidate by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Etomidate-d_5 is supplied as a neat liquid. A stock solution may be made by dissolving the etomidate-d_5 in the solvent of choice, which should be purged with an inert gas. Etomidate-d_5 is soluble in ethanol, methanol, DMSO, and dimethyl formamide.

Description

Etomidate-d_5 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; IC_{50}s = 15.7, 387, and 950 µM, respectively).[2] Etomidate also inhibits the cytochrome P450 (CYP) isoforms CYP11B1 and CYP11B2 (IC_{50}s = 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 (Item No. 33154) induced by adrenocorticotropic 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 myoclonus, in mice.[1] Formulations containing etomidate have been used as general anesthetics.

References

1. Lowson, S., Gent, J.P. and Goodchild, C.S. *Br. J. Pharmacol.* **102(4)**, 879-882 (1991).
2. Lingamaneni, R. and Hemmings, H.C., Jr. *Br. J. Anaesth.* **90(2)**, 199-211 (2003).
3. Hille, U.E., Zimmer, C., Vock, C.A., *et al. ACS Med. Chem. Lett.* **2(1)**, 2-6 (2010).
4. Lamberts, S.W., Bons, E.G., Bruining, H.A., *et al. J. Pharmacol. Exp. Ther.* **240(1)**, 259-264 (1987).

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