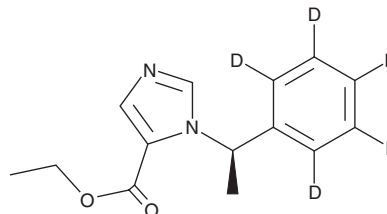


PRODUCT INFORMATION



Etomidate-d₅ 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 ₅ N ₂ O 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-d₅ 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-d₅ is supplied as a neat liquid. A stock solution may be made by dissolving the etomidate-d₅ in the solvent of choice, which should be purged with an inert gas. Etomidate-d₅ is soluble in ethanol, methanol, DMSO, and dimethyl formamide.

Description

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 (Item No. 33154) 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 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).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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