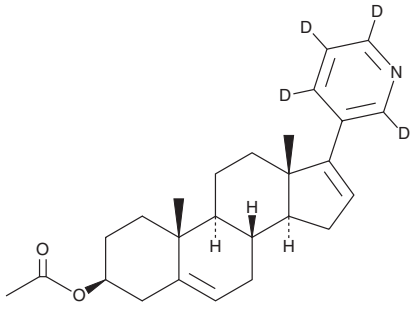
PRODUCT INFORMATION

Abiraterone Acetate-d_4

Item No. 22096

CAS Registry No.: 2122245-63-8
Formal Name: (3β)-17-(3-pyridinyl-2,4,5,6-d4)-androsta-5,16-dien-3-ol, 3-acetate
Synonym: CB-7630-d_4
MF: $C_{26}H_{29}D_4NO_2$
FW: 395.6
Chemical Purity: ≥98% (Abiraterone Acetate)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_4); ≤1% d_0
Supplied as: A solid
Storage: 4°C
Stability: ≥4 years



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

Laboratory Procedures

Abiraterone acetate-d_4 is intended for use as an internal standard for the quantification of abiraterone acetate (Item No. 15148) 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).

Abiraterone acetate-d_4 is supplied as a solid. A stock solution may be made by dissolving the solid in the solvent of choice, which should be purged with an inert gas. Abiraterone acetate-d_4 is soluble in the organic solvent methanol.

Description

Abiraterone acetate is an inhibitor of the cytochrome P450 (CYP) isoform CYP17A1 (IC_{50}s = 17 and 18 nM for inhibition of $C_{17,20}$-lyase and 17α-hydroxylase activities, respectively).[1] It is also a prodrug form of abiraterone (Item No. 9002768).[2] Abiraterone acetate reduces plasma testosterone levels, increases plasma luteinizing hormone levels, and reduces ventral prostate, seminal vesicle, testis, and kidney weight in mice when administered at doses of 0.1 and 0.5 mmol/kg per day. It also reduces severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) viral load in the culture supernatant of infected Vero E6 cells (EC_{90} = 8.4 µM) and is active in a plaque reduction assay (EC_{50} = 1.94 µM).[3] Formulations containing abiraterone acetate have been used in combination therapy for the treatment of metastatic castration-resistant prostate cancer.

References

1. Potter, G.A., Barrie, S.E., Jarman, M., *et al.* Novel steroidal inhibitors of human cytochrome $P450_{17α}$ (17α-hydroxylase-$C_{17,20}$-lyase): Potential agents for the treatment of prostatic cancer. *J. Med. Chem.* **38(13)**, 2463-2471 (1995).
2. Barrie, S.E., Potter, G.A., Goddard, P.M., *et al.* Pharmacology of novel steroidal inhibitors of cytochrome $P450_{17α}$ (17α-hydroxylase/C17-20 lyase). *J. Steroid Biochem. Mol. Biol.* **50(5-6)**, 267-273 (1994).
3. Yuan, S., Chan, J.F.W., Chik, K.K.H., *et al.* Discovery of the FDA-approved drugs bexarotene, cetilistat, diiodohydroxyquinoline, and abiraterone as potential COVID-19 treatments with a robust two-tier screening system. *Pharmacol. Res.* **159(104960)**, (2020).

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