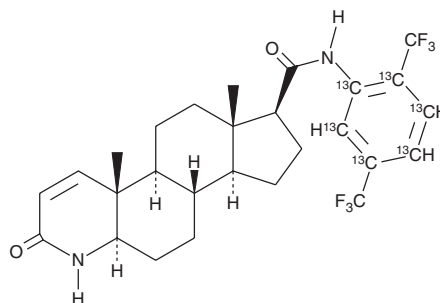


# PRODUCT INFORMATION



## Dutasteride-<sup>13</sup>C<sub>6</sub> Item No. 25313

**CAS Registry No.:** 1217685-27-2  
**Formal Name:** (4aR,4bS,6aS,7S,9aS,9bS,11aR)-N-(2,5-bis(trifluoromethyl)phenyl)-1,2,3,4,5,6-<sup>13</sup>C<sub>6</sub>-4a,6a-dimethyl-2-oxo-2,4a,4b,5,6,6a,7,8,9,9a,9b,10,11,11a-tetradecahydro-1H-indeno[5,4-f]quinoline-7-carboxamide  
**MF:** C<sub>21</sub>[<sup>13</sup>C]<sub>6</sub>H<sub>30</sub>F<sub>6</sub>N<sub>2</sub>O<sub>2</sub>  
**FW:** 534.5  
**Purity:** ≥98%  
**Supplied as:** A solid  
**Storage:** -20°C  
**Stability:** ≥4 years



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

### Laboratory Procedures

Dutasteride-<sup>13</sup>C<sub>6</sub> is supplied as a solid. A stock solution may be made by dissolving the dutasteride-<sup>13</sup>C<sub>6</sub> in the solvent of choice. Dutasteride-<sup>13</sup>C<sub>6</sub> is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of dutasteride-<sup>13</sup>C<sub>6</sub> in ethanol and DMSO is approximately 10 mg/ml and approximately 30 mg/ml in DMF.

### Description

Dutasteride-<sup>13</sup>C<sub>6</sub> is intended for use as an internal standard for the quantification of dutasteride (Item No. 15956) by GC- or LC-MS. Dutasteride is a dual inhibitor of 5 $\alpha$ -reductase types I and II (K<sub>s</sub> = 6 and 7 nM, respectively).<sup>1-3</sup> Its inhibition is time-dependent with apparent K<sub>i</sub> values of 17 and 4.3 nM at 10- and 30-minute reaction times, respectively.<sup>1</sup> Dutasteride decreases prostate weight in a rat model of benign prostatic hypertrophy induced by testosterone after castration when administered daily for 28 days at doses of 0.045 mg/kg as a solution or 0.756 mg/kg in subcutaneous microspheres.<sup>4</sup> It also decreases prostate weight in large probasin-large T antigen mice, a transgenic model of prostate cancer.<sup>5</sup> Formulations containing dutasteride have been used in the treatment of benign prostatic hyperplasia.

### References

1. Makridakis, N. and Reichardt, J.K. Pharmacogenetic analysis of human steroid 5 $\alpha$  reductase type II: Comparison of finasteride and dutasteride. *J. Mol. Endocrinol.* **34(3)**, 617-623 (2005).
2. Bramson, H.N., Hermann, D., Batchelor, K.W., et al. Unique preclinical characteristics of GG745, a potent dual inhibitor of 5AR. *J. Pharmacol. Exp. Ther.* **282(3)**, 1496-1502 (1997).
3. Tian, G., Stuart, J.D., Moss, M.L., et al. 17 $\beta$ -(N-tert-butylcarbonyl)-4-aza-5  $\alpha$ -androstane-1-en-3-one is an active site-directed slow time-dependent inhibitor of human steroid 5  $\alpha$ -reductase 1. *Biochemistry* **33(8)**, 2291-2296 (1994).
4. Xie, X., Yang, Y., Chi, Q., et al. Controlled release of dutasteride from biodegradable microspheres: *In vitro* and *in vivo* studies. *PLoS One* **9(12)**, e114835 (2014).
5. Shao, T.C., Li, H., Ittmann, M., et al. Effects of dutasteride on prostate growth in the large probasin-large T antigen mouse model of prostate cancer. *J. Urol.* **178(4 Pt. 1)**, 1521-1527 (2007).

#### 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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