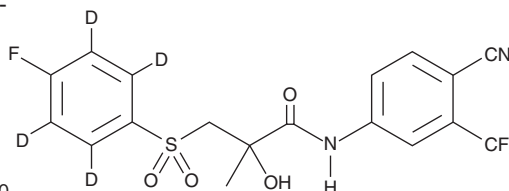


# PRODUCT INFORMATION



## Bicalutamide-d<sub>4</sub> Item No. 22377

**CAS Registry No.:** 1185035-71-5  
**Formal Name:** N-[4-cyano-3-(trifluoromethyl)phenyl]-3-[[4-fluorophenyl-2,3,5,6-d<sub>4</sub>]sulfonyl]-2-hydroxy-2-methyl-propanamide  
**MF:** C<sub>18</sub>H<sub>10</sub>D<sub>4</sub>F<sub>4</sub>N<sub>2</sub>O<sub>4</sub>S  
**FW:** 434.4  
**Chemical Purity:** ≥98% (Bicalutamide)  
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>4</sub>); ≤1% d<sub>0</sub>  
**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

Bicalutamide-d<sub>4</sub> is intended for use as an internal standard for the quantification of bicalutamide (Item No. 14250) 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).

Bicalutamide-d<sub>4</sub> is supplied as a solid. A stock solution may be made by dissolving the bicalutamide-d<sub>4</sub> in the solvent of choice. Bicalutamide-d<sub>4</sub> is soluble in organic solvents such as methanol and DMSO, which should be purged with an inert gas.

### Description

Bicalutamide is a non-steroidal androgen receptor antagonist that binds the androgen receptor ( $K_i = 12.5 \mu\text{M}$ ;  $\text{IC}_{50} = 1.2 \mu\text{M}$ ), preventing its activation and subsequent upregulation of androgen responsive genes by androgenic hormones.<sup>1,2</sup> Bicalutamide is frequently used to examine the role of androgen receptor inactivation in the proliferation of prostate cancer cells and has served as a molecular template for the design and structural optimization of more selective androgen receptor modulators for androgen therapy.<sup>3,4</sup>

### References

1. Freeman, S.N., Mainwaring, W.I.P., and Furr, B.J.A. A possible explanation for the peripheral selectivity of a novel non-steroidal pure antiandrogen, Casodex (ICI 176,334). *Br. J. Cancer* **60**(5), 664-668 (1989).
2. Masiello, D., Cheng, S., Bublely, G.J., et al. Bicalutamide functions as an androgen receptor antagonist by assembly of a transcriptionally inactive receptor. *J. Biol. Chem.* **277**(29), 26321-26326 (2002).
3. Gao, W., Kim, J., and Dalton, J.T. Pharmacokinetics and pharmacodynamics of nonsteroidal androgen receptor ligands. *Pharm. Res.* **23**(8), 1641-1658 (2006).
4. Yin, D., Perera, M.A., Dalton, J.T., et al. Key structural features of nonsteroidal ligands for binding and activation of the androgen receptor. *Mol. Pharmacol.* **63**(1), 211-223 (2003).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

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