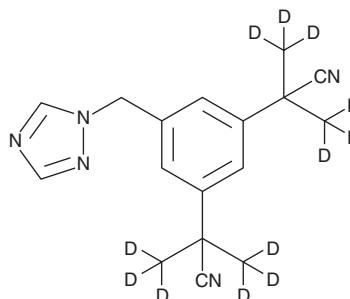


# PRODUCT INFORMATION



## Anastrozole-d<sub>12</sub> Item No. 25360

**CAS Registry No.:** 120512-32-5  
**Formal Name:**  $\alpha,\alpha,\alpha,\alpha'$ -tetra(methyl-d<sub>3</sub>)-5-(1H-1,2,4-triazol-1-ylmethyl)-1,3-benzenediacetonitrile  
**Synonym:** Anastrol-d<sub>12</sub>  
**MF:** C<sub>17</sub>H<sub>7</sub>D<sub>12</sub>N<sub>5</sub>  
**FW:** 305.4  
**Chemical Purity:** ≥98% (Anastrozole)  
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>12</sub>); ≤1% d<sub>0</sub>  
**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

Anastrozole-d<sub>12</sub> is intended for use as an internal standard for the quantification of anastrozole (Item No. 11987) 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).

Anastrozole-d<sub>12</sub> is supplied as a solid. A stock solution may be made by dissolving the anastrozole-d<sub>12</sub> in the solvent of choice. Anastrozole-d<sub>12</sub> is soluble in the organic solvent chloroform, which should be purged with an inert gas.

### Description

Anastrozole is an aromatase/CYP19A1 inhibitor (IC<sub>50</sub> = 15 nM for human placental aromatase/CYP19A1).<sup>1</sup> It is selective for aromatase/CYP19A1 over the cytochrome P450 (CYP) isoforms CYP1A2, CYP2A6, CYP2C9, CYP2D6, and CYP3A (IC<sub>50</sub>s = 27-650 μM). Anastrozole (0.1 mg/kg) blocks ovulation in mature female rats and androstenedione-stimulated uterine development in pubertal female rats.<sup>2</sup> It inhibits peripheral aromatase/CYP19A1 and reduces plasma estradiol concentrations in male pigtailed monkeys when administered at doses greater than 0.1 mg/kg. Anastrozole (0.5 mg/kg) reduces tumor incidence and the number of tumors by 40 and 57%, respectively, as well as increases latency to tumor appearance in a rat model of premenopausal mammary tumorigenesis.<sup>3</sup> Formulations containing anastrozole have been used in the treatment of breast cancer.

### References

1. Grimm, S.W., and Dyroff, M.C. Inhibition of human drug metabolizing cytochromes P450 by anastrozole, a potent and selective inhibitor of aromatase. *Drug Metab. Disp.* **25(5)**, 598-602 (1997).
2. Plourde, P.V., Dyroff, M.C., and Dukes, M. Arimidex®: A potent and selective fourth-generation aromatase inhibitor. *Breast Cancer Res. Treat.* **30(1)**, 103-111 (1994).
3. Kubatka, P., Sadlonová, V., Kajo, K., et al. Chemopreventive effects of anastrozole in a premenopausal breast cancer model. *Anticancer Res.* **28(5A)**, 2819-2823 (2008).

**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**  
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 12/19/2022

### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM