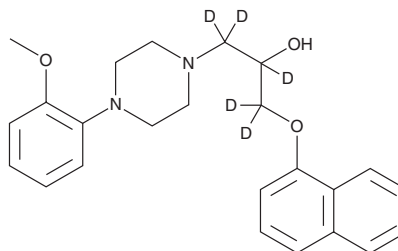


# PRODUCT INFORMATION



## Naftopidil-d<sub>5</sub> Item No. 33811

**CAS Registry No.:** 2747918-58-5  
**Formal Name:** 4-(2-methoxyphenyl)-α-[(1-naphthalenyloxy)methyl-d<sub>2</sub>]-1-piperazineethan-α,β,β-d<sub>3</sub>-ol  
**MF:** C<sub>24</sub>H<sub>23</sub>D<sub>5</sub>N<sub>2</sub>O<sub>3</sub>  
**FW:** 397.5  
**Chemical Purity:** ≥98% (Naftopidil)  
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>5</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

Naftopidil-d<sub>5</sub> is intended for use as an internal standard for the quantification of naftopidil (Item No. 21122) 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).

Naftopidil-d<sub>5</sub> is supplied as a solid. A stock solution may be made by dissolving the naftopidil-d<sub>5</sub> in the solvent of choice, which should be purged with an inert gas. Naftopidil-d<sub>5</sub> is soluble in the organic solvent methanol.

### Description

Naftopidil is an antagonist of α<sub>1</sub>-adrenergic receptors (α<sub>1</sub>-ARs; K<sub>i</sub>s = 3.7, 20, and 1.2 nM for α<sub>1A</sub>-, α<sub>1B</sub>-, and α<sub>1D</sub>-ARs, respectively).<sup>1</sup> It is selective for α<sub>1</sub>-ARs over α<sub>2</sub>-ARs (K<sub>i</sub> = 1,793 nM).<sup>2</sup> Naftopidil inhibits norepinephrine-induced contractions in various blood vessels isolated from dog, rabbit, guinea pig, or rat with pA<sub>2</sub> values ranging from 6.73 to 8.15.<sup>2</sup> It reduces prostatic pressure and mean blood pressure in anesthetized dogs when administered at doses of 100 or 1,000 μg/kg.<sup>3</sup> Naftopidil also inhibits the growth of androgen-sensitive LNCaP cells and androgen-insensitive PC3 cancer cells with IC<sub>50</sub> values of 22.2 and 33.2 μM, respectively.<sup>4</sup> Formulations containing naftopidil have been used in the treatment of benign prostatic hyperplasia.

### References

1. Masumori, N. Naftopidil for the treatment of urinary symptoms in patients with benign prostatic hyperplasia. *Ther. Clin. Risk Manag.* **7**, 227-238 (2011).
2. Muramatsu, I., Yamanaka, K., and Kigoshi, S. Pharmacological profile of the novel α-adrenoceptor antagonist KT-611 (naftopidil). *Jpn. J. Pharmacol.* **55**(3), 391-398 (1991).
3. Takei, R.-i., Ikegaki, I., Shibata, K., *et al.* Naftopidil, a novel α<sub>1</sub>-adrenoceptor antagonist, displays selective inhibition of canine prostatic pressure and high affinity binding to cloned human α<sub>1</sub>-adrenoceptors. *Jpn. J. Pharmacol.* **79**(4), 447-454 (1999).
4. Kanda, H., Ishii, K., Ogura, Y., *et al.* Naftopidil, a selective α-1 adrenoceptor antagonist, inhibits growth of human prostate cancer cells by G1 cell cycle arrest. *Int. J. Cancer* **122**(2), 444-451 (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

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