

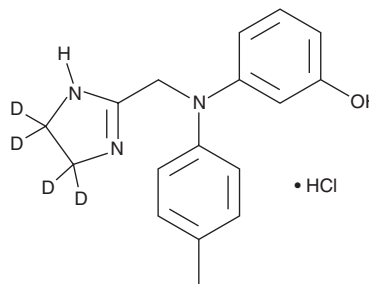
# PRODUCT INFORMATION



## Phentolamine-d<sub>4</sub> (hydrochloride)

Item No. 29417

**CAS Registry No.:** 1346599-65-2  
**Formal Name:** 3-[[[(4,5-dihydro-1H-imidazol-2-yl-4,4,5,5-d<sub>4</sub>)methyl](4-methylphenyl)amino]-phenol, monohydrochloride  
**MF:** C<sub>17</sub>H<sub>15</sub>D<sub>4</sub>N<sub>3</sub>O • HCl  
**FW:** 321.8  
**Chemical Purity:** ≥98% (Phentolamine)  
**Deuterium Incorporation:** ≥99% deuterated forms (d<sub>1</sub>-d<sub>4</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

Phentolamine-d<sub>4</sub> (hydrochloride) is intended for use as an internal standard for the quantification of phentolamine (Item No. 16135) 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).

Phentolamine-d<sub>4</sub> (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the phentolamine-d<sub>4</sub> (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Phentolamine-d<sub>4</sub> (hydrochloride) is slightly soluble in methanol and DMSO.

### Description

Phentolamine is a reversible antagonist of  $\alpha$ -adrenergic receptors, non-specifically binding all  $\alpha_1$ - and  $\alpha_2$ -adrenoceptors with nanomolar affinities.<sup>1-4</sup> Formulations containing phentolamine have been used in the treatment of hypertensive emergencies, as well as chronic and emergent pain.

### References

1. Lomasney, J.W., Cotecchia, S., Lorenz, W., *et al.* Molecular cloning and expression of the cDNA for the  $\alpha_{1A}$ -adrenergic receptor. The gene for which is located on human chromosome 5. *J. Biol. Chem.* **266**(10), 6365-6369 (1991).
2. Millan, M.J., Newman-Tancredi, A., Audinot, V., *et al.* Agonist and antagonist actions of yohimbine as compared to fluparoxan at  $\alpha_2$ -adrenergic receptors (AR)s, serotonin (5-HT)<sub>1A</sub>, 5-HT<sub>1B</sub>, 5-HT<sub>1D</sub> and dopamine D<sub>2</sub> and D<sub>3</sub> receptors. Significance for the modulation of frontocortical monoaminergic transmission and depressive states. *Synapse* **35**(2), 79-95 (2000).
3. O'Rourke, M.F., Iversen, L.J., Lomasney, J.W., *et al.* Species orthologs of the Alpha-2A adrenergic receptor: The pharmacological properties of the bovine and rat receptors differ from the human and porcine receptors. *J. Pharmacol. Exp. Ther.* **271**(2), 735-740 (1994).
4. Richelson, E. and Nelson, A. Antagonism by antidepressants of neurotransmitter receptors of normal human brain *in vitro*. *J. Pharmacol. Exp. Ther.* **230**(1), 94-102 (1984).

#### 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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