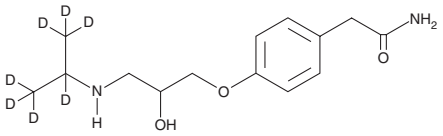
# PRODUCT INFORMATION

## (±)-Atenolol-$d_7$

*Item No. 30018*

**CAS Registry No.:** 1202864-50-3
**Formal Name:** 4-[2-hydroxy-3-[[1-(methyl-$d_3$) ethyl-1,2,2,2-$d_4$]amino]propoxy]-benzeneacetamide
**Synonyms:** (R,S)-Atenolol-$d_7$, Duraatenol, ICI 66082
**MF:** $C_{14}D_7H_{15}N_2O_3$
**FW:** 273.4
**Chemical Purity:** ≥95% ((±)-Atenolol)
**Deuterium Incorporation:** ≥99% deuterated forms ($d_1$-$d_7$); ≤1% $d_0$
**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

(±)-Atenolol-$d_7$ is intended for use as an internal standard for the quantification of (±)-atenolol (Item No. 17250) 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).

(±)-Atenolol-$d_7$ is supplied as a solid. A stock solution may be made by dissolving the (±)-atenolol-$d_7$ in the solvent of choice, which should be purged with an inert gas. (±)-Atenolol-$d_7$ is slightly soluble in chloroform and methanol.

### Description

(±)-Atenolol is an antagonist of the $\beta_1$-adrenergic receptor ($\beta_1$-AR; $K_i$ =1.14µM).[1] It is selective for $\beta_1$-ARs over $\beta_2$-ARs ($K_i$ = 48.7 µM). (±)-Atenolol (200 mg/kg per day) delays the onset of hypertension in spontaneously hypertensive rats.[2] Formulations containing atenolol have been used in the treatment of high blood pressure.

### References


1. Golf, S., Bjornerheim, R., Erichsen, A., *et al.* Relative selectivity of different β-adrenoceptor antagonists for human heart β1- and β2-receptor subtypes assayed by a radioligand binding technique. *Scand. J. Clin. Lab. Invest.* **47(7)**, 719-723 (1987).
2. Richer, C., Boissier, J.R., and Giudicelli, J.F. Chronic atenolol treatment and hypertension development in spontaneously hypertensive rats. *Eur. J. Pharmacol.* **47(4)**, 393-400 (1978).





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