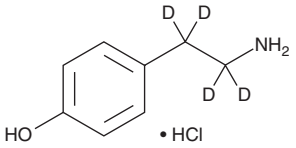
PRODUCT INFORMATION

Tyramine-d_4 (hydrochloride)

Item No. 28531

CAS Registry No.: 1189884-47-6
Formal Name: 4-(2-aminoethyl-1,1,2,2-d_4)-phenol, monohydrochloride
Synonyms: 2-(4-Hydroxyphenyl)ethylamine-d_4, *p*-Tyramine-d_4, Uteramine-d_4
MF: $C_8H_7D_4NO \bullet HCl$
FW: 177.7
Chemical Purity: ≥98% (Tyramine)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_4); ≤1% d_0
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years
Item Origin: Synthetic



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Tyramine-d_4 (hydrochloride) is intended for use as an internal standard for the quantification of tyramine (Item No. 18601) 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).

Tyramine-d_4 (hydrochloride) is supplied as a solid. A stock solution may be made by dissolving the tyramine-d_4 (hydrochloride) in the solvent of choice, which should be purged with an inert gas. Tyramine-d_4 (hydrochloride) is slightly soluble in DMSO and methanol.

Description

Tyramine is a tyrosine-derived endogenous and dietary monoamine and trace amine-associated receptor 1 (TAAR1) agonist.[1-3] It activates TAAR1 (EC_{50}s = 0.08, 0.69, and 2.26 µM for rat, mouse, and human-rat chimera receptors, respectively).[1] Tyramine also inhibits the release of norepinephrine and dopamine in isolated rat caudate nucleus (IC_{50}s = 40.6 and 119 nM, respectively).[4]

References

1. Reese, E.A., Bunzow, J.R., Arttamangkul, S., *et al.* Trace amine-associated receptor 1 displays species-dependent stereoselectivity for isomers of methamphetamine, amphetamine, and para-hydroxyamphetamine. *J. Pharmacol. Exp. Ther.* **321(1)**, 178-186 (2007).
2. Zucchi, R., Chiellini, G., Scanlan, T.S., *et al.* Trace amine-associated receptors and their ligands. *Br. J. Pharmacol.* **149(8)**, 967-978 (2006).
3. Maguire, J.J., Parker, W.A.E., Foord, S.M., *et al.* International Union of Pharmacology. LXXII. Recommendations for trace amine receptor nomenclature. *Pharmacol. Rev.* **61(1)**, (2009).
4. Rothman, R.B., Baumann, M.H., Dersch, C.M., *et al.* Amphetamine-type central nervous system stimulants release norepinephrine more potently than they release dopamine and serotonin. *Science* **39(1)**, 32-41 (2001).

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