

Product Data Sheet

Product Name: Tyramine-d4 (hydrochloride)

Cat. No.: GC45587

Chemical Properties

Cas. No. 1189884-47-6

SMILES OC1=CC=C(C([2H])([2H])C([2H])([2H])N)C=C1.Cl

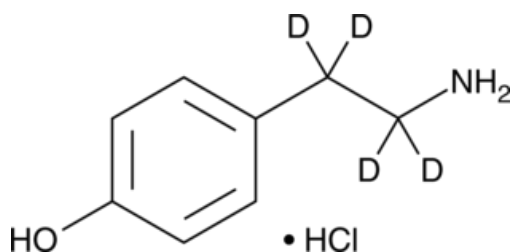
Formula C8H7D4NO.HCl M.Wt 177.7

Solubility H₂O : 100 mg/mL (562.87 mM; Need ultrasonic); DMSO : 100 mg/mL (562.87 mM; Need ultrasonic);
DMSO : 100 mg/mL (562.87 mM; Need ultrasonic)

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure



Background

Tyramine-d4 is intended for use as an internal standard for the quantification of tyramine by GC- or LC-MS. Tyramine is a tyrosine-derived endogenous and dietary monoamine and trace amine-associated receptor 1 (TAAR1) agonist.^{1,2,3} It activates TAAR1 (EC₅₀s = 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 (IC₅₀s = 40.6 and 119 nM, respectively).⁴

References

Caution: Product has not been fully validated for medical applications. For research use only.

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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* 291(5811), 32-41 (2001).

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