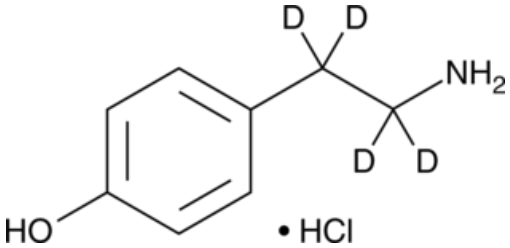
Product Data Sheet

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	H_2O : 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)	Storage	Store at -20°C
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 39(1), 32-41 (2001).

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