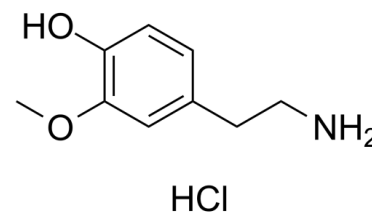


## Data Sheet

<b>Product Name:</b>	3-Methoxytyramine (hydrochloride)
<b>Cat. No.:</b>	CS-8045
<b>CAS No.:</b>	1477-68-5
<b>Molecular Formula:</b>	C <sub>9</sub> H <sub>14</sub> ClNO <sub>2</sub>
<b>Molecular Weight:</b>	203.67
<b>Target:</b>	Drug Metabolite; Endogenous Metabolite
<b>Pathway:</b>	Metabolic Enzyme/Protease
<b>Solubility:</b>	DMSO : 100 mg/mL (490.99 mM; Need ultrasonic and warming)



### BIOLOGICAL ACTIVITY:

3-Methoxytyramine hydrochloride is an inactive metabolite of dopamine which can activate **trace amine associated receptor 1 (TAAR1)**. IC<sub>50</sub> & Target: TAAR1<sup>[1]</sup> **In Vitro:** The intensity of the fluorescence developed is in a linear relation to the amount of 3-Methoxytyramine hydrochloride presented in the sample up to at least 1 µg. When a high concentration of dopamine is present in the reaction mixture, there is some reduction in the fluorescence derived from 3-Methoxytyramine hydrochloride<sup>[1]</sup>. **In Vivo:** The extracellular DA metabolite 3-Methoxytyramine hydrochloride (3-MT) induces significant behavioral activation in DDD mice. This activity however, is mostly presented as a set of disorganized abnormal movements that includes tremor, head bobbing, straub tail, grooming and abnormal orofacial movements rather than normal forward activity. No effect is observed when 3-Methoxytyramine hydrochloride is infused at doses below 9 µg, at 9 µg and higher doses 3-Methoxytyramine hydrochloride dose-dependently causes transient behavioral activation with a complex set of behaviors. In particular, transient hyperactivity and stereotypy, sniffing, grooming, rearing and mild abnormal involuntary movements (AIMs) at the level of limbs is observed after infusion of 9 µg of 3-Methoxytyramine hydrochloride. Similar behaviors are also observed after 18 µg of 3-Methoxytyramine hydrochloride with the additional appearance of tremor as well as oral and whole body AIMs<sup>[1]</sup>.

### PROTOCOL (Extracted from published papers and Only for reference)

**Cell Assay:** Dopamine and 3-Methoxytyramine hydrochloride are eluted together from the column with 10 mL of 2 N perchloric acid. The pH of the eluate is adjusted to 7 by the addition of saturated and 2% potassium carbonate solutions, with vigorous stirring to avoid local alkalinity in the solution. The solution is cooled and the precipitated potassium perchlorate removed by centrifugation. The resulting clear supernatant is used for the estimation of 3-Methoxytyramine hydrochloride.<sup>[1]</sup> The rats are killed by cervical dislocation and the brains are removed and placed on an ice-cooled glass plate. The corpora striata are dissected out and homogenized immediately or stored at -17°C until analyzed. For the estimation of 3-Methoxytyramine hydrochloride 1 mL of the neutralized perchloric acid solution is placed in a glass test tube. One millilitre of a solution of potassium ferricyanide (20 µg/mL) in concentrated ammonium hydroxide is added. After 2 min 0 to 1 mL of a solution of cysteine (1 mg/mL) is added and mixed. The fluorescence of the resulting solution is measured in a spectrophotofluorometer fitted with an interference filter in the fluorescence light path. A blank determination is made by reversing the order of the addition of the ferricyanide-ammonia solution and the solution of cysteine. Authentic 3-Methoxytyramine hydrochloride is also added to a portion of the neutralized eluate and the fluorescence developed to check for quenching<sup>[1]</sup>. **Animal Administration:** <sup>[1]</sup>To assess effects of 3-Methoxytyramine hydrochloride (3-MT) in normal and TAAR1-KO mice, the animals are placed in the locomotor activity chamber and 30 min later various doses of 3-Methoxytyramine hydrochloride are administered i.c.v.. To perform i.c.v. administration in this paradigm, habituated mice are removed from the experimental chamber, briefly restrained, i.c.v. injection cannula is placed into the previously implanted (one week before) guide cannula and infusion of 3-Methoxytyramine hydrochloride or vehicle is performed for 4 minutes when animal is freely moving in a home cage. After infusion, animals are put back into experimental chamber and behavior is monitored for 90 min after administration

[1].

### References:

- [1]. Sotnikova TD, et al. The dopamine metabolite 3-methoxytyramine is a neuromodulator. PLoS One. 2010 Oct 18;5(10):e13452.
- [2]. Guldberg HC, et al. Some observations on the estimation of 3-methoxytyramine in brain tissue. Br J Pharmacol. 1971 Aug;42(4):505-11.

### CAIndexNames:

Phenol, 4-(2-aminoethyl)-2-methoxy-, hydrochloride (1:1)

### SMILES:

COC1=C(O)C=CC(CCN)=C1.Cl

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

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