

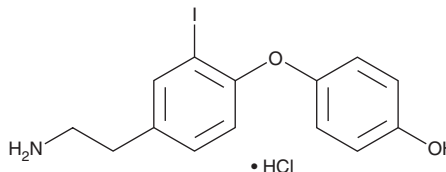
PRODUCT INFORMATION



3-Iodothyronamine (hydrochloride)

Item No. 16121

CAS Registry No.: 788824-64-6
Formal Name: 4-[4-(2-aminoethyl)-2-iodophenoxy]-phenol, monohydrochloride
Synonym: T1AM
MF: $C_{14}H_{14}INO_2 \cdot HCl$
FW: 391.6
Purity: $\geq 95\%$
Supplied as: A crystalline solid
Storage: $-20^{\circ}C$
Stability: ≥ 4 years



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

Laboratory Procedures

3-Iodothyronamine (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the 3-iodothyronamine (hydrochloride) in the solvent of choice, which should be purged with an inert gas. 3-Iodothyronamine (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 3-iodothyronamine (hydrochloride) in these solvents is approximately 25, 30, and 50 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of 3-iodothyronamine (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 3-iodothyronamine (hydrochloride) in PBS (pH 7.2) is approximately 0.1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

3-Iodothyronamine is derived from the deiodination and decarboxylation of endogenous thyroxine. It activates the G protein-coupled receptor known as trace amine-associated receptor 1 at nanomolar concentrations whereupon it rapidly influences thyroid hormone actions including body temperature, heart rate, and cardiac output.^{1,2} It has also been reported to function in controlling lipid and glucose utilization, hormonal secretion, and neuronal function, and has been considered for use in chemically-induced hibernation for medical purposes.³⁻⁵

References

1. Zucchi, R., Chiellini, G., Scanlan, T.S., *et al.* Trace amine-associated receptors and their ligands. *Br. J. Pharmacol.* **149**(8), 967-978 (2006).
2. Chiellini, G., Frascarelli, S., Ghelardoni, S., *et al.* Cardiac effects of 3-iodothyronamine: A new aminergic system modulating cardiac function. *FASEB J.* **21**(7), 1597-1608 (2007).
3. Manni, M.E., De Siena, G., Saba, A., *et al.* 3-Iodothyronamine: A modulator of the hypothalamus-pancreas-thyroid axes in mice. *Br. J. Pharmacol.* **166**(2), 650-658 (2012).
4. Braulke, J., Klingenspor, M., DeBarber, A., *et al.* 3-Iodothyronamine: A novel hormone controlling the balance between glucose and lipid utilisation. *J. Comp. Physiol. B* **178**(2), 167-177 (2008).
5. Kim, J.G., Song, Y.K., Jo, Y.H., *et al.* A new efficient synthetic method for 3-iodothyronamine involving sonication and its potent hypothermic efficacy. *Bull. Korean Chem. Soc.* **32**(4), 1131-1132 (2011).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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