

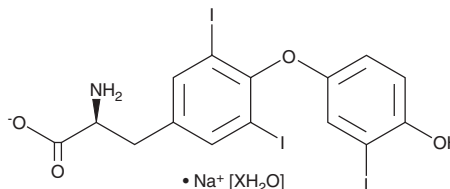
# PRODUCT INFORMATION



## 3,3',5-Triiodo-L-thyronine (sodium salt hydrate)

Item No. 16028

**CAS Registry No.:** 345957-19-9  
**Formal Name:** O-(4-hydroxy-3-iodophenyl)-3,5-diiodo-L-tyrosine, monosodium salt, hydrate  
**Synonyms:** Liothyronine, T3, L-3,3',5-Triiodothyronine  
**MF:** C<sub>15</sub>H<sub>11</sub>I<sub>3</sub>NO<sub>4</sub> • Na [XH<sub>2</sub>O]  
**FW:** 673.0  
**Purity:** ≥98%  
**UV/Vis.:** λ<sub>max</sub>: 227, 297 nm  
**Supplied as:** A crystalline solid  
**Storage:** -20°C  
**Stability:** ≥4 years



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

### Laboratory Procedures

3,3',5-Triiodo-L-thyronine (sodium salt hydrate) is supplied as a crystalline solid. A stock solution may be made by dissolving the 3,3',5-triiodo-L-thyronine (sodium salt hydrate) in the solvent of choice, which should be purged with an inert gas. 3,3',5-Triiodo-L-thyronine (sodium salt hydrate) is soluble in organic solvents such as DMSO and dimethyl formamide (DMF). The solubility of 3,3',5-triiodo-L-thyronine (sodium salt hydrate) in these solvents is approximately 1 and 0.25 mg/ml, respectively.

3,3',5-Triiodo-L-thyronine (sodium salt hydrate) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 3,3',5-triiodo-L-thyronine (sodium salt hydrate) should first be dissolved in DMF and then diluted with the aqueous buffer of choice. 3,3',5-Triiodo-L-thyronine (sodium salt hydrate) has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

3,3',5-Triiodo-L-thyronine (T3) is a thyroid hormone.<sup>1</sup> It is produced by 5'-monodeiodination of the prohormone thyroxine (T4) in various tissues, including liver and kidney. T3 is an agonist of thyroid hormone receptors TR $\alpha$  and TR $\beta$  (K<sub>i</sub>s = 2.3 nM for both) that modulates diverse biological properties, including metabolism, cardiac function, growth, and redox signaling.<sup>2-5</sup> It also functions as an inhibitor of L-type amino acid transporter 1 (LAT1), inhibiting LAT1-mediated leucine uptake in HEK293 cells when used at a concentration of 10  $\mu$ M.<sup>6</sup>

### References

1. Larsen, P.R., Silva, J.E., and Kaplan, M.M. *Endocr. Rev.* **2**(1), 87-102 (1981).
2. Shiohara, H., Nakamura, T., Kikuchi, N., et al. *Bioorgan. Med. Chem.* **20**(11), 3622-3634 (2012).
3. Cox, M.D., Dalal, S.S., Heard, C.R.C., et al. *J. Nutri.* **114**(9), 1609-1616 (1984).
4. Macchia, P.E., Takeuchi, Y., Kawai, T., et al. *P. Natl. Acad. Sci. USA* **98**(1), 349-354 (2001).
5. Videla, L.A., Cornejo, P., Romanque, P., et al. *Sci. World J.* **2012**, 1-11 (2012).
6. Kongpracha, P., Nagamori, S., Wiriyasermkul, P., et al. *J. Pharmacol. Sci.* **133**(2), 96-102 (2017).

#### 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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#### CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD  
ANN ARBOR, MI 48108 · USA

**PHONE:** [800] 364-9897  
[734] 971-3335

**FAX:** [734] 971-3640

CUSTSERV@CAYMANCHEM.COM  
WWW.CAYMANCHEM.COM