

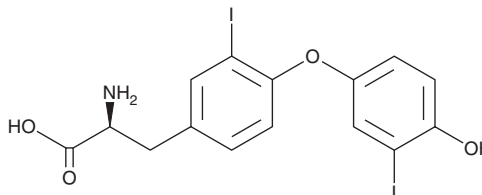
# PRODUCT INFORMATION



## 3,3'-Diiodo-L-tyronine

Item No. 16748

**CAS Registry No.:** 4604-41-5  
**Formal Name:** O-(4-hydroxy-3-iodophenyl)-3-iodo-L-tyrosine  
**Synonyms:** L-3,3'-Diiodothyronine, T2, 3,3'-T2  
**MF:** C<sub>15</sub>H<sub>13</sub>I<sub>2</sub>NO<sub>4</sub>  
**FW:** 525.1  
**Purity:** ≥95%  
**UV/Vis.:** λ<sub>max</sub>: 291 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'-Diiodo-L-tyronine is supplied as a crystalline solid. A stock solution may be made by dissolving the 3,3'-diiodo-L-tyronine in the solvent of choice, which should be purged with an inert gas. 3,3'-Diiodo-L-tyronine is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of 3,3'-diiodo-L-tyronine in these solvents is approximately 30 mg/ml.

3,3'-Diiodo-L-tyronine is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 3,3'-diiodo-L-tyronine should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. 3,3'-Diiodo-L-tyronine has a solubility of approximately 0.03 mg/ml in a 1:30 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

### Description

3,3'-Diiodo-L-tyronine is a metabolite of thyroid hormone that is also known as T2 or 3,3'-T2.<sup>1</sup> It is derived enzymatically from triiodothyronine isoforms T3 and reverse T3. T2 and its analog 3,5-T2 stimulate the activity of cytochrome c oxidase by blocking inhibition by ATP.<sup>2,3</sup>

### References

1. Pinna, G., Hiedra, L., Meinhold, H., *et al.* 3,3'-Diiodothyronine concentrations in the sera of patients with nonthyroidal illnesses and brain tumors and of healthy subjects during acute stress. *J. Clin. Endocrinol. Metab.* **83**(9), 3071-3077 (1998).
2. Goglia, F., Lanni, A., Barth, J., *et al.* Interaction of diiodothyronines with isolated cytochrome c oxidase. *FEBS Lett.* **346**(2-3), 295-298 (1994).
3. Arnold, S., Goglia, F., and Kadenbach, B. 3,5-Diiodothyronine binds to subunit Va of cytochrome-c oxidase and abolishes the allosteric inhibition of respiration by ATP. *Eur. J. Biochem.* **252**(2), 325-330 (1998).

#### 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.

#### WARRANTY AND LIMITATION OF REMEDY

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