

Small Molecules

3,3',5-Triiodo-L-thyronine (Sodium Salt Hydrate)

TR and TR agonist

Catalog #100-0548
100-0549

100 mg
500 mg



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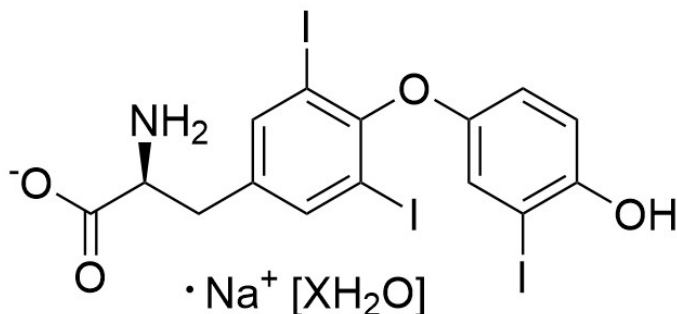
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Product Description

3,3',5-Triiodo-L-thyronine is a thyroid hormone, which is converted from the prohormone thyroxine via deiodination (Misiti et al.).

3,3',5-Triiodo-L-thyronine binds thyroid hormone receptors TR α and TR β ($K_d = 0.06$ nM for both thyroid hormone receptors; Sandler et al.), and is essential for growth and differentiation of a variety of cell types (Misiti et al.; Shiohara et al.). 3,3',5-Triiodo-L-thyronine inhibits leucine transport by pituitary cells ($IC_{50} = 2$ μ M; Yan & Hinkle). This product is supplied as the sodium salt hydrate form of the molecule.

Molecular Name:	3,3',5-Triiodo-L-thyronine (Sodium Salt Hydrate)
Alternative Names:	Liothyronine; T3; L-3,3',5-Triiodothyronine
CAS Number:	345957-19-9
Chemical Formula:	C ₁₅ H ₁₁ I ₃ NO ₄ • Na • XH ₂ O
Molecular Weight:	673.0 g/mol
Purity:	≥ 98%
Chemical Name:	O-(4-hydroxy-3-iodophenyl)-3,5-diiodo-L-tyrosine, monosodium salt, hydrate
Structure:	



Properties

Physical Appearance:	A crystalline solid
Storage:	Product stable at -20°C as supplied. Protect product from prolonged exposure to light. For long-term storage, store with a desiccant. Stable as supplied for 12 months from date of receipt.
Solubility:	• DMSO ≤ 1.4 mM For example, to prepare a 1 mM stock solution in DMSO, resuspend 1 mg in 1.49 mL of DMSO.

Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported, however, as a general guide we recommend storage in DMSO at -20°C. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application.

Compound has low solubility in aqueous media. For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use. Avoid final DMSO concentration above 0.1% due to potential cell toxicity.

Published Applications

DIFFERENTIATION

- Promotes pancreatic β cell differentiation from human pluripotent stem cells (Pagliuca et al.).

CANCER RESEARCH

- Inhibits the proliferation of pancreatic adenocarcinoma (Michienzi et al.).

References

Michienzi S et al. (2007) 3,3',5-Triiodo-L-thyronine inhibits ductal pancreatic adenocarcinoma proliferation improving the cytotoxic effect of chemotherapy. *J Endocrinol* 193(2): 209–23.

Misiti S et al. (2005) 3,5,3'-Triiodo-L-thyronine enhances the differentiation of a human pancreatic duct cell line (hPANC-1) towards a beta-cell-Like phenotype. *J Cell Physiol* 204(1): 286–96.

Pagliuca FW et al. (2014) Generation of functional human pancreatic β cells in vitro. *Cell* 159(2): 428–39.

Sandler B et al. (2004) Thyroxine-thyroid hormone receptor interactions. *J Biol Chem* 279(53): 55801–8.

Shiohara H et al. (2012) Discovery of novel indane derivatives as liver-selective thyroid hormone receptor β (TR β) agonists for the treatment of dyslipidemia. *Bioorg Med Chem* 20(11): 3622–34.

Yan Z & Hinkle PM. (1993) Saturable, stereospecific transport of 3,5,3'-triiodo-L-thyronine and L-thyroxine into GH4C1 pituitary cells. *J Biol Chem* 268(27): 20179–84.

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