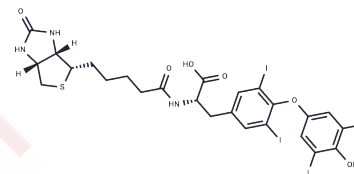


Biotin-(L-Thyroxine)

Chemical Properties

CAS No. : 149734-00-9
 Formula: C₂₅H₂₅I₄N₃O₆S
 Molecular Weight: 1003.17
 Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year
 Actual storage temperature shall be subject to the COA.



Biological Description

Description	Biotin-(L-Thyroxine) is a biotinylated L-Thyroxine, a synthetic hormone used in hypothyroidism research. DIO enzymes convert this compound (T4) into the biologically active thyroid hormone, Triiodothyronine (T3) [1].
Targets(IC50)	Others,Endogenous Metabolite,Thyroid hormone receptor(THR)
In vivo	Deiodinases (DIO) that catalyze the conversion of thyroxine (prohormone) to active thyroid hormone are related to thyroid-stimulating hormone (TSH) levels. DIO1 and DIO2 facilitate the activation of thyroid hormone secretion, while DIO3 contributes to hormone inactivation. DIO1 and DIO2 are crucial in the negative feedback regulation of pituitary TSH secretion [1]. Biotin-(L-Thyroxine) (T4) and triiodothyronine (T3) hormones are known to regulate ion channels, pumps, and contractile proteins. Thyroid hormones influence calcium homeostasis and the fluxes responsible for excitation and contraction, with Biotin-(L-Thyroxine) and triiodothyronine modulating their pharmacological control and secretion. In rats fed an iodine-deficient diet for 12 weeks, levels of triiodothyronine and Biotin-(L-Thyroxine) were significantly reduced compared to those on a standard diet ($p < 0.001$). In groups treated with low-dose Biotin-(L-Thyroxine), Biotin-(L-Thyroxine) levels increased ($p = 0.02$), while triiodothyronine levels remained similar to controls ($p = 0.19$). Rats treated with high-dose Biotin-(L-Thyroxine) showed significantly increased circulating triiodothyronine and Biotin-(L-Thyroxine) concentrations compared to the untreated hypothyroid group ($p < 0.001$ and $p = 0.004$, respectively), with Biotin-(L-Thyroxine) levels also significantly elevated compared to control values ($p = 0.03$) [2].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	0.9968 mL	4.9842 mL	9.9684 mL
5 mM	0.1994 mL	0.9968 mL	1.9937 mL
10 mM	0.0997 mL	0.4984 mL	0.9968 mL
50 mM	0.0199 mL	0.0997 mL	0.1994 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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