

Product Data Sheet

Product Name: Thyroxine sulfate (T4 Sulfate)

Cat. No.: GC31328

Chemical Properties

Cas. No. 77074-49-8

SMILES N[C@@H](CC1=CC(I)=C(C(I)=C1)OC2=CC(I)=C(OS(=O)(O)=O)C(I)=C2)C(O)=O

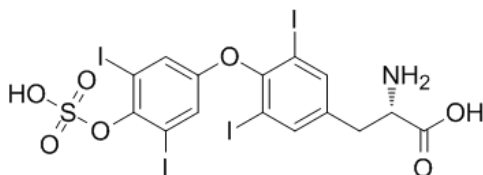
Formula $C_{15}H_{11}I_4NO_7S$ M.Wt 856.93

Solubility DMSO : ≥ 31 mg/mL (36.18 mM) Storage Store at 4°C

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure



Background

Thyroxine sulfate is a thyroid hormone metabolite.

Thyroxine sulfate (T4S) is a normal component of human serum and amniotic fluid, and it is mostly derived from thyroxine peripherally and accumulates when type I 5-monodeiodinating activity is low in fetuses or inhibited by drugs, such as ipodate[1].

Significant amounts of thyroxine sulfate (T4S) in fetal sheep serum, meconium, bile, and amniotic

Caution: Product has not been fully validated for medical applications. For research use only.

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and allantoic fluids are observed. T4S concentration in amniotic fluid from women at 18-19 weeks of gestation (25.5 ng/dL) is higher than that at 14-15 weeks of gestation (14.3 ng/dL). A significant rise in serum T4S is detected in hyperthyroid patients 1 day after ingestion of 1 g of ipodate[1]. Thyroxine undergoes significant sulfation in rats, and biliary excretion of T4S is enhanced if its type I deiodination is inhibited[2]. Serum T4S levels are clearly elevated compared with healthy references, and the decreased deiodination by liver D1 during critical illness appears to play a role in this increase in serum T4S levels[3].

[1]. Wu SY, et al. Identification of thyroxine-sulfate (T4S) in human serum and amniotic fluid by a novel T4S radioimmunoassay. *Thyroid*. 1992 Summer;2(2):101-5. [2]. Rutgers M, et al. Effects of propylthiouracil on the biliary clearance of thyroxine (T4) in rats: decreased excretion of 3,5,3'-triiodothyronine glucuronide and increased excretion of 3,3',5'-triiodothyronine glucuronide and T4 sulfate. *Endocrinology*. 1989 Oct;125(4):2175-86. [3]. Peeters RP, et al. Increased thyroxine sulfate levels in critically ill patients as a result of a decreased hepatic type I deiodinase activity. *J Clin Endocrinol Metab*. 2005 Dec;90(12):6460-5.

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