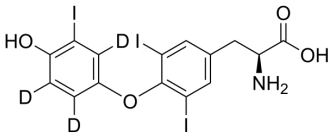
Liothyronine-d_3

Cat. No.:	HY-A0070AS3
Molecular Formula:	$C_{15}H_9D_3I_3NO_4$
Molecular Weight:	653.99
Target:	Endogenous Metabolite; Thyroid Hormone Receptor; Isotope-Labeled Compounds
Pathway:	Metabolic Enzyme/Protease; Vitamin D Related/Nuclear Receptor; Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Liothyronine-d_3 is deuterated labeled Liothyronine (HY-A0070A). Liothyronine is an active form of thyroid hormone. Liothyronine is a potent thyroid hormone receptors TRα and TRβ agonist with K_is of 2.33 nM for hTRα and hTRβ, respectively [1][2][3].
In Vitro	Stable heavy isotopes of hydrogen, carbon, and other elements have been incorporated into drug molecules, largely as tracers for quantitation during the drug development process. Deuteration has gained attention because of its potential to affect the pharmacokinetic and metabolic profiles of drugs[1]. hepatocarcinomaLiothyronine (T3, 100 nM) stimulates the proliferation of hepatocarcinema cells in which TRβ1 is overexpressed[2]. Liothyronine binds to the human β1 thyroid hormone receptor (hTRβ1), and changes its conformation. Liothyronine promotes growth, induces differentiation and regualtes metabolic effects[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Hiroaki Shiohara, et al. Discovery of novel indane derivatives as liver-selective thyroid hormone receptor β (TRβ) agonists for the treatment of dyslipidemia. Bioorg Med Chem. 2012 Jun 1;20(11):3622-34.

[2]. Lin KH, et al. Stimulation of proliferation by 3,3',5-triiodo-L-thyronine in poorly differentiated human hepatocarcinoma cells overexpressing beta 1 thyroid hormone receptor. Cancer Lett. 1994 Oct 14;85(2):189-94.

[3]. Bhat MK, et al. Conformational changes of human beta 1 thyroid hormone receptor induced by binding of 3,3',5-triiodo-L-thyronine. Biochem Biophys Res Commun. 1993 Aug 31;195(1):385-92.

[4]. Russak EM, et al. Impact of Deuterium Substitution on the Pharmacokinetics of Pharmaceuticals. Ann Pharmacother. 2019 Feb;53(2):211-216.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com
Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA