

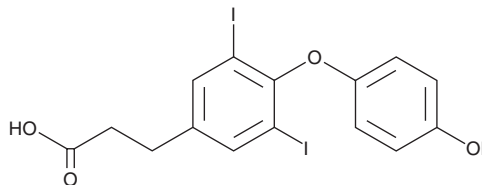
PRODUCT INFORMATION



3,5-Diiodothyropropionic Acid

Item No. 23299

CAS Registry No.: 1158-10-7
Formal Name: 4-(4-hydroxyphenoxy)-3,5-diiodobenzenepropanoic acid
Synonym: DITPA
MF: C₁₅H₁₂I₂O₄
FW: 510.1
Purity: ≥98%
Supplied as: A 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

3,5-Diiodothyropropionic acid (DITPA) is supplied as a solid. A stock solution may be made by dissolving the DITPA in the solvent of choice, which should be purged with an inert gas. DITPA is slightly soluble in DMSO and methanol.

Description

DITPA is an inotropic thyroid hormone analogue of L-thyroxine (Item No. 14116) that binds to the thyroid hormone receptors TR α and TR β ($K_{aS} = 2.4$ and $4.06 \times 10^7 \text{ M}^{-1}$, respectively, for human recombinant receptors).¹ DITPA increases mRNA expression of α -myosin heavy chain (α -MHC) in primary rat cardiomyocytes ($EC_{50} = \sim 0.5 \mu\text{M}$). *Ex vivo*, DITPA prevents myocardial infarction-induced loss of contractility in rabbit cardiomyocytes when administered at a dose of 3.75 mg/kg per day.² DITPA (3.75 mg/kg per day) increases expression of VEGF, basic fibroblast growth factor (bFGF), angiopoietin-1, and angiopoietin-1 receptor (Tie-2) as well as angiogenesis in non-infarcted cardiac tissue in rats.³ It also decreases infarct size expansion, stimulates arteriolar growth, and inhibits ventricular remodeling post-myocardial infarction in rats when administered at a dose of 3.5 mg/kg per day.⁴

References

1. Pennock, G.D., Raya, T.E., Bahl, J.J., *et al.* Cardiac effects of 3,5-diiodothyropropionic acid, a thyroid hormone analog with inotropic selectivity. *J. Pharmacol. Exp. Ther.* **263**(1), 163-169 (1992).
2. Litwin, S.E., Zhang, D., Roberge, P., *et al.* DITPA prevents the blunted contraction-frequency relationship in myocytes from infarcted hearts. *Am. J. Physiol. Heart Circ. Physiol.* **278**(3), H862-H870 (2000).
3. Wang, X., Zheng, W., Christensen, L.P., *et al.* DITPA stimulates bFGF, VEGF, angiopoietin, and Tie-2 and facilitates coronary arteriolar growth. *Am. J. Physiol. Heart Circ. Physiol.* **284**(2), H613-H618 (2003).
4. Zheng, W., Weiss, R.M., Wang, X.Z., *et al.* DITPA stimulates arteriolar growth and modifies myocardial postinfarction remodeling. *Am. J. Physiol. Heart Circ. Physiol.* **286**(5), H1994-H2000 (2004).

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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CAYMAN CHEMICAL

1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA

PHONE: [800] 364-9897

[734] 971-3335

FAX: [734] 971-3640

CUSTSERV@CAYMANCHEM.COM
WWW.CAYMANCHEM.COM