

**DIO3 Antibody (C-term) Blocking Peptide**  
**Synthetic peptide**  
**Catalog # BP9529b****Specification**

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**DIO3 Antibody (C-term) Blocking Peptide - Product Information**

Primary Accession [P55073](#)  
Other Accession [NP\\_001353](#)

**DIO3 Antibody (C-term) Blocking Peptide - Additional Information**

**Gene ID** 1735

**Other Names**

Type III iodothyronine deiodinase, 5DIII, DIOIII, Type 3 DI, Type-III 5'-deiodinase, DIO3, ITDI3, TXDI3

**Format**

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

**Storage**

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

**Precautions**

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

**DIO3 Antibody (C-term) Blocking Peptide - Protein Information**

**Name** DIO3

**Synonyms** ITDI3, TXDI3

**Function**

Responsible for the deiodination of T4 (3,5,3',5'- tetraiodothyronine) into RT3 (3,3',5'-triiodothyronine) and of T3 (3,5,3'-triiodothyronine) into T2 (3,3'-diiodothyronine). RT3 and T2 are inactive metabolites. May play a role in preventing premature exposure of developing fetal tissues to adult levels of thyroid hormones. Can regulate circulating fetal thyroid hormone concentrations throughout gestation. Essential role for regulation of thyroid hormone inactivation during embryological development.

**Cellular Location**

Cell membrane; Single-pass type II membrane protein Endosome membrane; Single-pass type II membrane protein

**Tissue Location**

Expressed in placenta and several fetal tissues.

## **DIO3 Antibody (C-term) Blocking Peptide - Protocols**

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

## **DIO3 Antibody (C-term) Blocking Peptide - Images**

## **DIO3 Antibody (C-term) Blocking Peptide - Background**

DIO3 belongs to the iodothyronine deiodinase family. It catalyzes the inactivation of thyroid hormone by inner ring deiodination of the prohormone thyroxine (T4) and the bioactive hormone 3,3',5-triiodothyronine (T3) to inactive metabolites, 3,3',5'-triiodothyronine (RT3) and 3,3'-diiodothyronine (T2), respectively. This enzyme is highly expressed in the pregnant uterus, placenta, fetal and neonatal tissues, suggesting that it plays an essential role in the regulation of thyroid hormone inactivation during embryological development. This protein contains a selenocysteine (Sec) residue, which is essential for efficient enzyme activity. The selenocysteine is encoded by the UGA codon, which normally signals translation termination. The 3' UTR of Sec-containing genes have a common stem-loop structure, the sec insertion sequence (SECIS), which is necessary for the recognition of UGA as a Sec codon rather than as a stop signal.

## **DIO3 Antibody (C-term) Blocking Peptide - References**

Bessho, K., et al. Eur. J. Pediatr. 169(2):215-221(2010) Wallace, C., et al. Nat. Genet. 42(1):68-71(2010) Aerts, G., et al. Endocrinology 150(11):5171-5180(2009) Panicker, V., et al. J. Clin. Endocrinol. Metab. 94(5):1623-1629(2009) Panicker, V., et al. J. Clin. Endocrinol. Metab. 93(8):3075-3081(2008)