

DIO3 Antibody (C-term)
Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP9529b**Specification**

DIO3 Antibody (C-term) - Product Information

Application	WB, IHC-P,E
Primary Accession	P55073
Other Accession	NP_001353
Reactivity	Human, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Antigen Region	250-278

DIO3 Antibody (C-term) - Additional Information**Gene ID** 1735**Other Names**

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

Target/Specificity

This DIO3 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 250-278 amino acids from the C-terminal region of human DIO3.

Dilution

WB~~1:2000

IHC-P~~1:50~100

E~~Use at an assay dependent concentration.

Format

Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.

Storage

Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions

DIO3 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

DIO3 Antibody (C-term) - Protein Information**Name** DIO3**Synonyms** ITDI3, TXDI3

Function Plays a crucial role in the metabolism of thyroid hormones (TH) and has specific roles in TH activation and inactivation by deiodination (PubMed:[7593630](#), PubMed:[12586771](#), PubMed:[12746313](#), PubMed:[18821722](#)). Catalyzes the deiodination of L-thyroxine (T4) to 3,3',5'-triiodothyronine (rT3), 3,5,3'-triiodothyronine (T3) to 3,3'- diiodothyronine (3,3'-T2), 3,5-diiodothyronine (3,5-T2) to 3- monoiodothyronine (3-T1), rT3 to 3',5'-diiodothyronine (3',5'-T2) and 3,3'-T2 to 3'-monoiodothyronine (3'-T1) via inner-ring deiodination (IRD) (PubMed:[7593630](#), PubMed:[12586771](#), PubMed:[12746313](#), PubMed:[18821722](#), PubMed:[18339710](#)). Catalyzes the deiodination of 3-T1 to L-thyronine (T0) via outer-ring deiodination (ORD) (PubMed:[18821722](#)). Catalyzes the tyrosyl ring deiodinations of 3,3',5,5'-tetraiodothyronamine, 3,3',5'-triiodothyronamine, 3,5,3'- triiodothyronamine, 3,5-diiodothyronamine, 3,3'-diiodothyronamine and 3-iodothyronamine (PubMed:[18339710](#)).

Cellular Location

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

Tissue Location

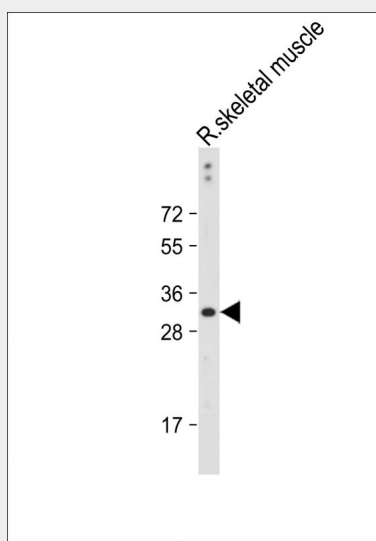
Expressed in placenta and several fetal tissues.

DIO3 Antibody (C-term) - Protocols

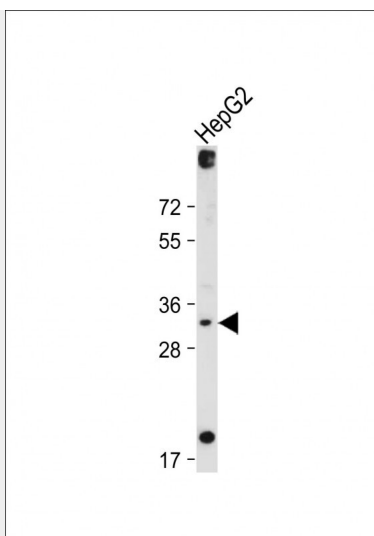
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

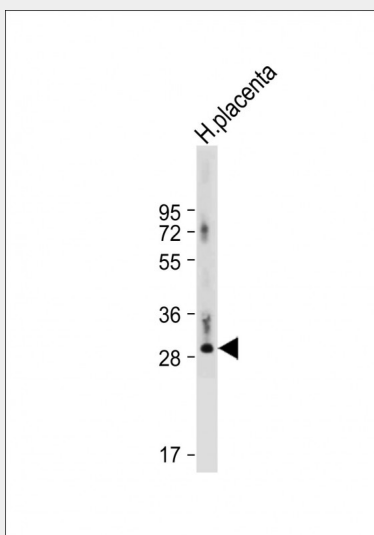
DIO3 Antibody (C-term) - Images



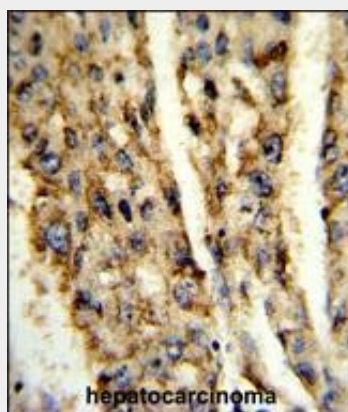
Anti-DIO3 Antibody (C-term) at 1:2000 dilution + Rat skeletal muscle tissue lysate
Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated
at 1/10000 dilution. Predicted band size : 34 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Anti-DIO3 Antibody (C-term) at 1:2000 dilution + HepG2 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 34 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Anti-DIO3 Antibody (C-term) at 1:2000 dilution + Human placenta lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 34 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Formalin-fixed and paraffin-embedded human hepatocarcinoma reacted with DIO3 Antibody

(C-term), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

DIO3 Antibody (C-term) - 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) - 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)