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DIO1 Antibody (N-term)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP6958a

Product Information

Application	WB, E
Primary Accession	P49895
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB21147
Calculated MW	28924
Antigen Region	30-57

Additional Information

Gene ID	1733
Other Names	Type I iodothyronine deiodinase, 5DI, DIOI, Type 1 DI, Type-I 5'-deiodinase, DIO1, ITDI1, TXDI1
Target/Specificity	This DIO1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 30-57 amino acids from the N-terminal region of human DIO1.
Dilution	WB~~1:1000 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	DIO1 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	DIO1
Synonyms	ITDI1, TXDI1
Function	Plays a crucial role in the metabolism of thyroid hormones (TH) and has specific roles in TH activation and inactivation by deiodination

	(PubMed:12586771, PubMed:32718224, PubMed:18821722). Catalyzes the deiodination of L-thyroxine (T4) to 3,5,3'- triiodothyronine (T3), 3,3',5'-triiodothyronine (rT3) to 3,3'- diiodothyronine (3,3'-T2) and 3',5'-diiodothyronine (3',5'-T2) to 3'- monoiodothyronine (3'-T1) via outer-ring deiodination (ORD) (PubMed:32718224, PubMed:18821722, PubMed:12586771, PubMed:18339710). Catalyzes the deiodination of T4 to 3,3',5'-triiodothyronine (rT3) via inner-ring deiodination (IRD) (PubMed:32718224). Catalyzes the deiodination of T3 to 3,3'-T2, 3,5-diiodothyronine (3,5-T2) to 3- monoiodothyronine (3-T1) and 3,3'-T2 to 3-T1 via IRD (By similarity). Catalyzes the phenolic ring deiodinations of 3,3',5'-triiodothyronamine and 3',5'-diiodothyronamine (PubMed:18339710). Catalyzes the phenolic ring deiodination of 3,3'-diiodothyronamine and tyrosyl ring deiodinations of 3,5,3'-triiodothyronamine and 3,5-diiodothyronamine (By similarity). Catalyzes the deiodination of L- thyroxine sulfate and 3,3',5-triiodo-L-thyronine sulfate via IRD and of 3,3',5'-triiodo-L-thyronine sulfate via ORD (By similarity).
Cellular Location	Cell membrane {ECO:0000250|UniProtKB:P24389}; Single-pass type III membrane protein {ECO:0000250|UniProtKB:P24389} Endoplasmic reticulum membrane {ECO:0000250|UniProtKB:P24389}; Single- pass type III membrane protein {ECO:0000250|UniProtKB:P24389} Basolateral cell membrane {ECO:0000250|UniProtKB:P24389}; Single-pass type III membrane protein {ECO:0000250|UniProtKB:P24389}

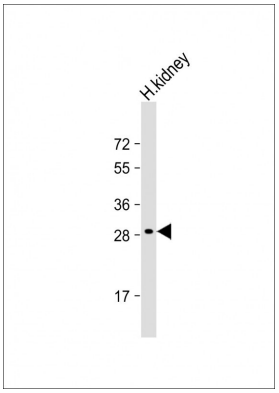
Background

DIO1 is a thiol-requiring propylthiouracil-sensitive oxidoreductase. It activates thyroid hormone by converting the prohormone thyroxine (T4) by outer ring deiodination (ORD) to bioactive 3,3',5-triiodothyronine (T3). It also degrades both hormones by inner ring deiodination (IRD).

References

Landa,I., et.al., PLoS Genet. 5 (9), E1000637 (2009)

Images



Anti-DIO1 Antibody (N-term) at 1:2000 dilution + human kidney 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 : 29 kDa Blocking/Dilution buffer: 5% NFDM/TBST.