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DUOX2 Rabbit pAb

Catalog # AP97787

Product Information

Application	IHC-P, IHC-F, IF, E
Primary Accession	Q9NRD8
Other Accession	Q9NRD8
Predicted	Rat, Human, Mouse, Dog
Host	Rabbit
Clonality	Polyclonal
Calculated MW	175364
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human DUOX2
Epitope Specificity	501-600/1548
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	In the N-terminal section; belongs to the peroxidase family. Contains 3 EF-hand domains. Contains 1 FAD-binding FR-type domain. Contains 1 ferric oxidoreductase domain.
SUBUNIT	Interacts with TXNDC11, TPO and CYBA.
Post-translational modifications	N-glycosylated.
DISEASE	Defects in DUOX2 are a cause of thyroid dyshormonogenesis 6 (TDH6) [MIM:607200]. A disorder due to a defective conversion of accumulated iodide to organically bound iodine. The iodide organification defect can be partial or complete.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Dual oxidase 2 (DUOX2), also designated NADPH thyroid oxidase 2, p138 thyroid oxidase or large NOX2, localizes to the apical membrane of epithelial cells. DUOX1, also designated NADPH thyroid oxidase or large NOX1, and DUOX2 are multi-pass membrane proteins predominantly expressed in thyrocytes, tracheal surface epithelial cells as well as thyroid, colon, duodenum, trachea and bronchium. DUOX1 and DUOX2 generate hydrogen peroxide, which is crucial for thyroid peroxidase and lactoperoxidase. In mucosa, DUOX proteins are involved in thyroid hormone biosynthesis and lactoperoxidase-mediated antimicrobial defense. Defects in the gene encoding for DUOX2 cause congenital hypothyroidism (CH), a disorder characterized by a defect in hydrogen peroxide production in the thyroid gland.

Additional Information

Gene ID	50506
	LNOX2; NOXEF2; P138-TOX; TDH6; THOX2; DUOX2_HUMAN; DUOX2; Large

Other Names	NOX 2; Long NOX 2; NADH/NADPH thyroid oxidase p138-tox; NADPH oxidase/peroxidase DUOX2; NADPH thyroid oxidase 2; Thyroid oxidase 2; p138 thyroid oxidase; 1.11.1.-; 1.6.3.1; DUOX2_RAT; NADH/NADPH thyroid oxidase THOX2; dual oxidase 2; dual oxidase-like domains 2; nicotinamide adenine dinucleotide phosphate oxidase; flavoprotein NADPH oxidase
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,ELISA=1:5000-10000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	DUOX2
Synonyms	LNOX2, THOX2
Function	Generates hydrogen peroxide which is required for the activity of thyroid peroxidase/TPO and lactoperoxidase/LPO (PubMed:15972824). Plays a role in thyroid hormone synthesis. Also required for lactoperoxidase-mediated antimicrobial defense at the surface of mucosa (PubMed:12824283). Synthesizes NAADP from its reduced NAADPH form which promotes Ca(2+) signaling during T cell activation (PubMed:34784249). May have its own peroxidase activity through its N- terminal peroxidase-like domain.
Cellular Location	Apical cell membrane; Multi-pass membrane protein. Cell junction. Note=Localizes to the apical membrane of epithelial cells. Localizes on internal membrane structures under resting conditions, translocates to the plasma membrane and cell-cell junctions upon challenge with enteric pathogens, such as Escherichia coli.
Tissue Location	Expressed in colon, small intestine, duodenum and tracheal surface epithelial cells (at protein level). Expressed in thyrocytes. Also detected in kidney, liver, lung, pancreas, prostate, salivary glands, rectum and testis.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.