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DCXR Rabbit pAb

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Catalog # AP55461

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	Q7Z4W1
Predicted	Rat, Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	25913
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human DCXR
Epitope Specificity	101-200/244
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SUBCELLULAR LOCATION	Membrane. Probably recruited to membranes via an interaction with phosphatidylinositol.
DISEASE	Note=The enzyme defect in pentosuria has been shown to involve L-xylulose reductase. Essential pentosuria is an inborn error of metabolism characterized by the excessive urinary excretion of the pentose L-xylulose.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	DCXR is a 244 amino acid member of the short-chain dehydrogenases/reductases family. This peripheral membrane protein catalyzes NADPH-dependent reduction of mulitple sugars, including L-xylulose, to the osmolyte xylitol. Producing xylitol in the renal tubules can prevent osmotic stress. L-xylulose reductase functions as a homotetramer and is expressed highly in kidney, liver and epididymis. Essential pentosuria is the result of a partial deficiency of L-xylulose reductase. Red blood cells of normal individuals contain two L-xylulose reductases: a major and a minor isozyme. Red cells from patients with pentosuria contain only one isozyme. Due to its role in the uronate cycle of glucose metabolism, L-xylulose reductase has been implicated in the management of the long term complications of diabetes.

Additional Information

Gene ID	51181
Other Names	L-xylulose reductase, XR, 1.1.1.10, Dicarbonyl/L-xylulose reductase, DCXR, Kidney dicarbonyl reductase, kiDCR, Short chain dehydrogenase/reductase family 20C member 1, Sperm surface protein P34H, DCXR, SDR20C1
Dilution	IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,ELISA=1:500

	0-10000
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	DCXR
Synonyms	SDR20C1
Function	Catalyzes the NADPH-dependent reduction of several pentoses, tetroses, trioses, alpha-dicarbonyl compounds and L-xylulose (PubMed:11882650, PubMed:19337691, PubMed:40737316). Can use both NAD and NADP as cosubstrate but shows higher activity with NADP (PubMed:11882650). Participates in the uronate cycle of glucose metabolism (PubMed:11882650). May play a role in the water absorption and cellular osmoregulation in the proximal renal tubules by producing xylitol, an osmolyte, thereby preventing osmolytic stress from occurring in the renal tubules (PubMed:11882650).
Cellular Location	Apical cell membrane {ECO:0000250|UniProtKB:Q91X52}; Peripheral membrane protein {ECO:0000250|UniProtKB:Q91X52}. Cytoplasmic vesicle, secretory vesicle, acrosome {ECO:0000250|UniProtKB:Q91XV4}. Note=Probably recruited to membranes via an interaction with phosphatidylinositol {ECO:0000250|UniProtKB:Q91XV4}
Tissue Location	Highly expressed in kidney, liver and epididymis (at protein level) (PubMed:11882650). In the epididymis, it is mainly expressed in the proximal and distal sections of the corpus region (PubMed:10385429).

Background

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