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FREAC3 Rabbit pAb

Catalog # AP99639

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	Q12948
Other Accession	Q12948
Reactivity	Rat, Human, Mouse
Predicted	Chicken, Dog, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	56789
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human FOXC1/FREAC3
Epitope Specificity	101-200/553
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Contains 1 fork-head DNA-binding domain.
SUBUNIT	Monomer.
DISEASE	Defects in FOXC1 are the cause of iridogoniodysgenesis anomaly (IGDA) [MIM:601631]. IGDA is an autosomal dominant phenotype characterized by iris hypoplasia, goniodysgenesis, and juvenile glaucoma. Defects in FOXC1 are a cause of Peters anomaly (PAN) [MIM:604229]. Peters anomaly consists of a central corneal leukoma, absence of the posterior corneal stroma and Descemet membrane, and a variable degree of iris and lenticular attachments to the central aspect of the posterior cornea.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	Binding of FREAC-3 and FREAC-4 to their cognate sites results in bending of the DNA at an angle of 80-90 degrees. Involvement in disease; Defects in FOXC1 are the cause of Axenfeld-Rieger syndrome type 3 (RIEG3); also known as Axenfeld-Rieger syndrome (ARS) or Axenfeld syndrome or Axenfeld anomaly. It is characterized by posterior corneal embryotoxon, prominent Schwalbe line and iris adhesion to the Schwalbe line. Other features may be hypertelorism (wide spacing of the eyes), hypoplasia of the malar bones, congenital absence of some teeth and mental retardation. When associated with tooth anomalies, the disorder is known as Rieger syndrome. Glaucoma is a progressive blinding condition that occurs in approximately half of patients with Axenfeld-Rieger malformations.

Additional Information

Gene ID	2296
Other Names	ARA; ASGD3; FKHL7; FREAC-3; FREAC3; IGDA; IHG1; IRID1; RIEG3; Fkh1; Mf1; Mf4; ch; fkh-1; frkhda; FOXC1_HUMAN; FOXC1; Forkhead-related protein

	FKHL7; Forkhead-related transcription factor 3 (FREAC-3); FOXC1_MOUSE; Mesoderm/mesenchyme forkhead 1 (MF-1); Transcription factor FKH-1; forkhead box C1
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500,Flow-Cyt=1ug /test
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	FOXC1
Synonyms	FKHL7, FREAC3
Function	DNA-binding transcriptional factor that plays a role in a broad range of cellular and developmental processes such as eye, bones, cardiovascular, kidney and skin development (PubMed:11782474, PubMed:14506133, PubMed:14578375, PubMed:15277473, PubMed:15299087, PubMed:15684392, PubMed:16449236, PubMed:16492674, PubMed:17210863, PubMed:19279310, PubMed:19793056, PubMed:25786029, PubMed:27804176, PubMed:27907090). Acts either as a transcriptional activator or repressor (PubMed:11782474). Binds to the consensus binding site 5'- [G/C][A/T]AAA[T/C]AA[A/C]-3' in promoter of target genes (PubMed:11782474, PubMed:12533514, PubMed:14506133, PubMed:19793056, PubMed:27804176, PubMed:7957066). Upon DNA-binding, promotes DNA bending (PubMed:14506133, PubMed:7957066). Acts as a transcriptional coactivator (PubMed:26565916). Stimulates Indian hedgehog (Ihh)-induced target gene expression mediated by the transcription factor GLI2, and hence regulates endochondral ossification (By similarity). Also acts as a transcriptional coregulator by increasing DNA-binding capacity of GLI2 in breast cancer cells (PubMed:26565916). Regulates FOXO1 through binding to a conserved element, 5'-GTAAACAAA-3' in its promoter region, implicating FOXC1 as an important regulator of cell viability and resistance to oxidative stress in the eye (PubMed:17993506). Cooperates with transcription factor FOXC2 in regulating expression of genes that maintain podocyte integrity (By similarity). Promotes cell growth inhibition by stopping the cell cycle in the G1 phase through TGFB1- mediated signals (PubMed:12408963). Involved in epithelial-mesenchymal transition (EMT) induction by increasing cell proliferation, migration and invasion (PubMed:20406990, PubMed:22991501). Involved in chemokine CXCL12-induced endothelial cell migration through the control of CXCR4 expression (By similarity). Plays a role in the gene regulatory network essential for epidermal keratinocyte terminal differentiation (PubMed:27907090). Essential developmental transcriptional factor required for mesoderm-derived tissues, such as the somites, skin, bone and cartilage. Positively regulates CXCL12 and stem cell factor expression in bone marrow mesenchymal progenitor cells, and hence plays a role in the development and maintenance of mesenchymal niches for haematopoietic stem and progenitor cells (HSPC). Plays a role in corneal transparency by preventing both blood vessel and lymphatic vessel growth during embryonic development in a VEGF-dependent manner. Involved in chemokine CXCL12-induced endothelial cell migration through the control of CXCR4 expression (By similarity). May function as a tumor suppressor (PubMed:12408963).
Cellular Location	Nucleus Note=Colocalizes with PITX2 isoform 3 in the nucleus at subnuclear

	chromatine regions (PubMed:16449236). Colocalizes with CBX5 to a heterochromatin-rich region of the nucleus (PubMed:15684392) Colocalizes with GLI2 in the nucleus (By similarity) {ECO:0000250|UniProtKB:Q61572, ECO:0000269|PubMed:15684392, ECO:0000269|PubMed:16449236}
Tissue Location	Expressed in keratinocytes of epidermis and hair follicle (PubMed:27907090). Expressed strongly in microvascular invasion (MVI) formation, basal-like breast cancer (BLBC) and hepatocellular tumors (PubMed:20406990, PubMed:22991501). Expressed in breast cancers (at protein level) (PubMed:26565916). Expressed in hematopoietic cells (PubMed:8499623).

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