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PITX3 Rabbit pAb

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Catalog # AP58004

Product Information

Application	WB, IHC-P, IHC-F, IF
Primary Accession	O75364
Reactivity	Rat, Human, Mouse
Predicted	Pig, Dog, Rabbit, Chicken, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	31832
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human PITX3
Epitope Specificity	231-302/302
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	Nucleus.
DISEASE	Defects in PITX3 are a cause of cataract autosomal dominant (ADC) [MIM:604219]. Cataract is an opacification of the crystalline lens of the eye that frequently results in visual impairment or blindness. Opacities vary in morphology, are often confined to a portion of the lens, and may be static or progressive. In general, the more posteriorly located and dense an opacity, the greater the impact on visual function. Cataract is the most common treatable cause of visual disability in childhood.Defects in PITX3 are a cause of anterior segment mesenchymal dysgenesis (ASMD) [MIM:107250]; also known as anterior segment ocular dysgenesis (ASOD). ASMD consists of a range of developmental defects in structures at the front of the eye, resulting from abnormal migration or differentiation of the neural crest derived mesenchymal cells that give rise to the cornea, iris, and other components of the anterior chamber during eye development. Mature anterior segment anomalies are associated with an increased risk of glaucoma and corneal opacity. Conditions falling within the phenotypic spectrum include aniridia, posterior embryotoxon, Axenfeld anomaly, Reiger anomaly/syndrome, Peters anomaly, and iridogoniodysgenesis. Defects in PITX3 are the cause of cataract posterior polar type 4 (CTPP4) [MIM:610623]. A subcapsular opacity, usually disk-shaped, located at the back of the lens. It can have a marked effect on visual acuity. Some patients affected by cataract posterior polar type 4 can present a severe phenotype including microphthalmia and neurological dysfunction.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	The transcription factor PITX3 is expressed selectively in the midbrain and regulates the differentiation and survival of dopaminergic neurons. Lack of this factor results in a degeneration similar to that seen in Parkinson's disease. PITX3 is also important in eye developement; mutations of the PITX3 gene have been associated with a familial form of cataracts.

Additional Information

Gene ID	5309
Other Names	Pituitary homeobox 3, Homeobox protein PITX3, Paired-like homeodomain transcription factor 3, PITX3, PTX3
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,Flow-Cyt=2ug/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

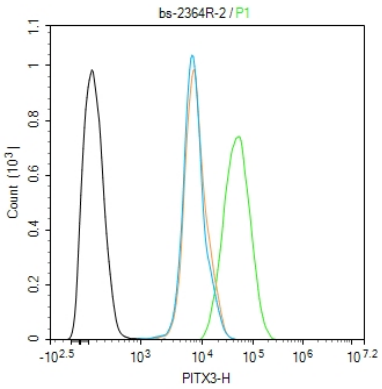
Name	PITX3
Synonyms	PTX3
Function	Transcriptional regulator which is important for the differentiation and maintenance of meso-diencephalic dopaminergic (mdDA) neurons during development. In addition to its importance during development, it also has roles in the long-term survival and maintenance of the mdDA neurons. Activates NR4A2/NURR1-mediated transcription of genes such as SLC6A3, SLC18A2, TH and DRD2 which are essential for development of mdDA neurons. Acts by decreasing the interaction of NR4A2/NURR1 with the corepressor NCOR2/SMRT which acts through histone deacetylases (HDACs) to keep promoters of NR4A2/NURR1 target genes in a repressed deacetylated state. Essential for the normal lens development and differentiation. Plays a critical role in the maintenance of mitotic activity of lens epithelial cells, fiber cell differentiation and in the control of the temporal and spatial activation of fiber cell-specific crystallins. Positively regulates FOXE3 expression and negatively regulates PROX1 in the anterior lens epithelium, preventing activation of CDKN1B/P27Kip1 and CDKN1C/P57Kip2 and thus maintains lens epithelial cells in cell cycle (By similarity).
Cellular Location	Nucleus {ECO:0000255|PROSITE-ProRule:PRU00108, ECO:0000255|PROSITE-ProRule:PRU00138}
Tissue Location	Highly expressed in developing eye lens.

Background

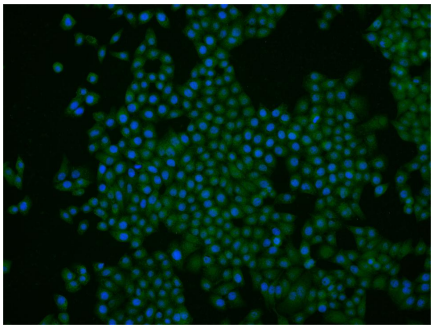
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Images

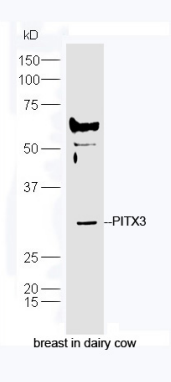
Blank control(black line):MCF-7.
Primary Antibody (green line): Rabbit Anti-PITX3 antibody (AP58004)
Dilution:2ug/Test;



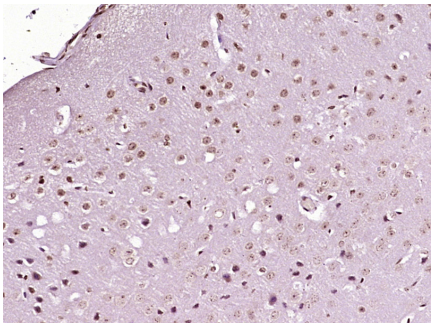
Secondary Antibody(white blue line): Goat anti-rabbit IgG-FITC
Dilution: 0.5ug/Test.
Isotype control(orange line): Normal Rabbit IgG
Protocol
The cells were fixed with 4% PFA (10min at room temperature)and then permeabilized with 90% ice-cold methanol for 20 min at -20℃, The cells were then incubated in 5%BSA to block non-specific protein-protein interactions for 30 min at room temperature .Cells stained with Primary Antibody for 30 min at room temperature. The secondary antibody used for 40 min at room temperature. Acquisition of 20,000 events was performed.



MCF7 cell; 4% Paraformaldehyde-fixed; Triton X-100 at room temperature for 20 min; Blocking buffer (normal goat serum, C-0005) at 37°C for 20 min; Antibody incubation with (PITX3) polyclonal Antibody, Unconjugated (AP58004) 1:25, 90 minutes at 37°C; followed by a conjugated Goat Anti-Rabbit IgG antibody at 37°C for 90 minutes, DAPI (blue, C02-04002) was used to stain the cell nuclei.



Sample: breast in dairy cow (Cow) Lysate at 40 ug
Primary: Anti-PITX3 (AP58004) at 1/300 dilution
Secondary: HRP conjugated Goat-Anti-rabbit IgG (AP58004-HRP) at 1/5000 dilution
Predicted band size: 32 kD
Observed band size: 32 kD



Paraformaldehyde-fixed, paraffin embedded (Mouse brain); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (PITX3) Polyclonal Antibody, Unconjugated (AP58004) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining.

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