SunLong Biotech Co.,LTD
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[Primary Antibody]

Rabbit Anti-PITX3 antibody

Catalog Number: SL2364R

FOR RESEARCH USE ONLY

[DATASHEET]

Host:	Rabbit
Isotype:	IgG
Clonality:	Polyclonal
Target:	PITX3
Immunogen:	KLH conjugated synthetic peptide derived from human PITX3: 231-302/302
Purification:	affinity purified by Protein A
Concentration:	1mg/ml
Storage:	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol. Shipped at 4℃. Store at -20 °C for one year. Avoid repeated freeze/thaw cycles.
Applications:	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 （Paraffin sections need antigen repair） not yet tested in other applications. optimal dilutions/concentrations should be determined by the end user.
Reactivity:	Human,Mouse,Rat,Cow(predicted:Chicken,Dog,Pig,Horse,Rabbit)
Predicted MW.:	32kDa
Subcellular Location:	The nucleus
Background:	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. **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,

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	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. **Subunit:** Interacts with SFPQ. **Subcellular Location:** Nucleus. **Tissue Specificity:** Highly expressed in developing eye lens. 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. **Similarity:** Belongs to the paired homeobox family. Bicoid subfamily. Contains 1 homeobox DNA-binding domain. **Database links:**

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	Entrez Gene: 5309 Human **Entrez Gene:** 18742 Mouse **Entrez Gene:** 29609 Rat Omim: 602669 Human **SwissProt:** O75364 Human **SwissProt:** Q5VZL2 Human **SwissProt:** O35160 Mouse **SwissProt:** P81062 Rat **Unigene:** 137568 Human **Unigene:** 6255 Mouse **Unigene:** 22092 Rat

[VALIDATION IMAGES]

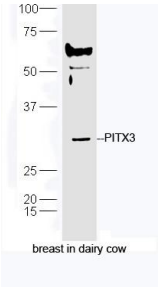


Figure 1. Sample: breast in dairy cow (Cow) Lysate at 40 ug Primary: Anti-PITX3 (SL2364R) at 1/300 dilution Secondary: HRP conjugated Goat-Anti-rabbit IgG (SL0295G-HRP) at 1/5000 dilution Predicted band size: 32 kD Observed band size: 32 kD

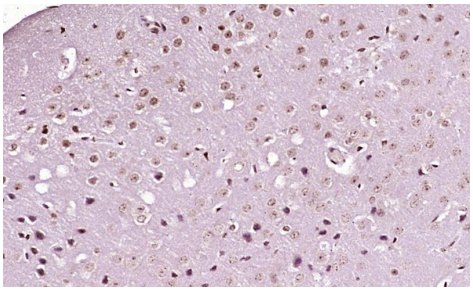


Figure 2. Paraformaldehyde-fixed, paraffin embedded (Mouse brain); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (PITX3) Polyclonal Antibody, Unconjugated (SL2364R) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining

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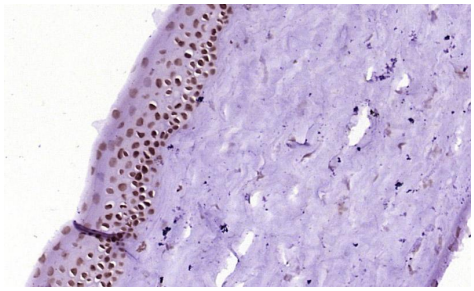


Figure 3. Paraformaldehyde-fixed, paraffin embedded (Rat eye); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (PITX3) Polyclonal Antibody, Unconjugated (SL2364R) at 1:400 overnight at 4°C, followed by operating according to SP Kit(Rabbit) (sp-0023) instructionsand DAB staining

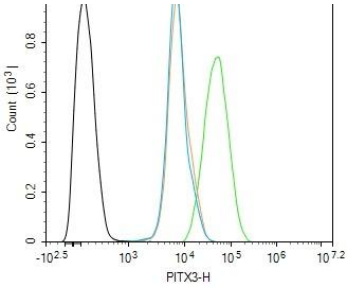


Figure 4. Blank control (black line) :MCF-7. Primary Antibody (green line): Rabbit Anti-PITX3 antibody (SL2364R) Dilution:2ug/Test; Secondary Antibody (white blue line) : Goat anti-rabbit IgG-FITC Dilution: 0.5ug/Test. Isotype control (orange line) : Normal Rabbit IgG Protocol The cells were fixed with 4% PFA (10min at room temperature)and then permeabilized with 90% ice-cold methanol for 20 min at -20°C, 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

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