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Alpha B Crystallin Recombinant Rabbit mAb

Catalog # AP100314

Product Information

Application	WB, IHC-P, IHC-F, IF, IP
Primary Accession	P02511
Other Accession	P02511
Reactivity	Rat, Human, Mouse
Host	Rabbit
Clonality	Recombinant
Calculated MW	20159
Physical State	Liquid
Immunogen	A synthesized peptide derived from human CRYAB
Epitope Specificity	124-175
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	10mM phosphate buffered saline(pH 7.4) with 150mM sodium chloride, 0.05% BSA, 0.02% Proclin300 and 50% glycerol.
SIMILARITY	Belongs to the small heat shock protein (HSP20) family.
SUBUNIT	Heteropolymer composed of three CRYAA and one CRYAB subunits. Aggregates with homologous proteins, including the small heat shock protein HSPB1, to form large heteromeric complexes. Inter-subunit bridging via zinc ions enhances stability, which is crucial as there is no protein turn over in the lens. Interacts with HSPBAP1 and TTN/titin.
DISEASE	Defects in CRYAB are the cause of myopathy myofibrillar type 2 (MFM2) [MIM:608810]. A neuromuscular disorder that results in weakness of the proximal and distal limb muscles, weakness of the neck, velopharynx and trunk muscles, hypetrophic cardiomyopathy, and cataract in a subset of patients. [DISEASE] Defects in CRYAB are the cause of cataract posterior polar type 2 (CTPP2) [MIM:613763]. A subcapsular opacity, usually disk-shaped, located at the back of the lens. It can have a marked effect on visual acuity. [DISEASE] Defects in CRYAB are the cause of myopathy myofibrillar fatal infantile hypertonic alpha-B crystallin-related (MFMFIH-CRYAB) [MIM:613869]. MFMFIH-CRYAB is a muscular dystrophy with onset in the first weeks of life after a normal neonatal period. Affected infants show rapidly progressive muscular rigidity of the trunk and limbs associated with increasing respiratory difficulty resulting in death before age 3 years.
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	May contribute to the transparency and refractive index of the lens. Has chaperone-like activity, preventing aggregation of various proteins under a wide range of stress conditions. In lens epithelial cells, stabilizes the ATP6V1A protein, preventing its degradation by the proteasome.

Additional Information

Gene ID	1410

Other Names	CMD1II; CRYA2; CTPP2; CTRCT16; HEL-S-101; HSPB5; MFM2; MFM2A; MFM2B; Crya-2; P23; AACRYA; CRYAB_HUMAN; CRYAB; Alpha(B)-crystallin; Heat shock protein beta-5 (HspB5); Heat shock protein family B member 5; Renal carcinoma antigen NY-REN-27; Rosenthal fiber component; CRYAB_MOUSE; CRYAB_RAT; crystallin alpha B; crystallin, alpha B
Dilution	WB=1:500-2000,IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:50-200,IF=1:100-500,IP=1:20-50
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	CRYAB (HGNC:2389)
Synonyms	CRYA2, HSPB5
Function	May contribute to the transparency and refractive index of the lens. Has chaperone-like activity, preventing aggregation of various proteins under a wide range of stress conditions. In lens epithelial cells, stabilizes the ATP6V1A protein, preventing its degradation by the proteasome (By similarity).
Cellular Location	Cytoplasm. Nucleus Secreted. Lysosome {ECO:0000250|UniProtKB:P23927}. Note=Translocates to the nucleus during heat shock and resides in sub-nuclear structures known as SC35 speckles or nuclear splicing speckles (PubMed:19464326). Localizes at the Z- bands and the intercalated disk in cardiomyocytes (PubMed:28493373) Can be secreted; the secretion is dependent on protein unfolding and facilitated by the cargo receptor TMED10; it results in protein translocation from the cytoplasm into the ERGIC (endoplasmic reticulum- Golgi intermediate compartment) followed by vesicle entry and secretion (PubMed:32272059).
Tissue Location	Lens as well as other tissues (PubMed:2387586, PubMed:838078). Expressed in myocardial tissue (PubMed:28493373)

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