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CRYAB Antibody (Center) Blocking peptide

Synthetic peptide
Catalog # BP13697c

Specification

CRYAB Antibody (Center) Blocking peptide - Product Information

Primary Accession P02511

CRYAB Antibody (Center) Blocking peptide - Additional Information

Gene ID 1410

Other Names
Alpha-crystallin B chain, Alpha(B)-crystallin, Heat shock protein beta-5, HspB5, Renal carcinoma antigen NY-REN-27, Rosenthal fiber component, CRYAB, CRYA2

Target/Specificity
The synthetic peptide sequence used to generate the antibody AP13697c was selected from the Center region of CRYAB. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format
Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions
This product is for research use only. Not for use in diagnostic or therapeutic procedures.

CRYAB Antibody (Center) Blocking peptide - Protein Information

Name CRYAB (HGNC:2389)

Synonyms CRYA2, HSPB5

CRYAB Antibody (Center) Blocking peptide - Background

Crystallins are separated into two classes:taxon-specific, or enzyme, and ubiquitous. The latter classconstitutes the major proteins of vertebrate eye lens and maintainsthe transparency and refractive index of the lens. Since lenscentral fiber cells lose their nuclei during development, thesecrystallins are made and then retained throughout life, making themextremely stable proteins. Mammalian lens crystallins are dividedinto alpha, beta, and gamma families; beta and gamma crystallinsare also considered as a superfamily. Alpha and beta families arefurther divided into acidic and basic groups. Seven protein regionsexist in crystallins: four homologous motifs, a connecting peptide,and N- and C-terminal extensions. Alpha crystallins are composed oftwo gene products: alpha-A and alpha-B, for acidic and basic,respectively. Alpha crystallins can be induced by heat shock andare members of the small heat shock protein (sHSP also known as theHSP20) family. They act as molecular chaperones although they donot renature proteins and release them in the fashion of a truechaperone; instead they hold them in large soluble aggregates.Post-translational modifications decrease the ability to chaperone.These heterogeneous aggregates consist of 30-40 subunits; thealpha-A and alpha-B subunits have a 3:1 ratio, respectively. Twoadditional functions of alpha crystallins are an autokinaseactivity and participation in the intracellular architecture.Alpha-A and alpha-B gene products are differentially expressed;alpha-A is preferentially restricted to the lens and alpha-B isexpressed widely in many tissues and organs. Elevated expression ofalpha-B crystallin occurs in many neurological diseases; a missensemutation cosegregated in a family with a desmin-related myopathy.

CRYAB Antibody (Center) Blocking peptide - References

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.

Cellular Location
Cytoplasm. Nucleus Secreted. 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:838078, PubMed:2387586). Expressed in myocardial tissue (PubMed:28493373)

CRYAB Antibody (Center) Blocking peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Blocking Peptides

Martins-de-Souza, D., et al. J Psychiatr Res 44(14):989-991(2010)Jehle, S., et al. Nat. Struct. Mol. Biol. 17(9):1037-1042(2010)Kida, E., et al. J. Neuropathol. Exp. Neurol. 69(7):745-759(2010)Deng, Y., et al. BMB Rep 43(6):432-437(2010)Houck, S.A., et al. PLoS ONE 5 (7), E11795 (2010) :