

**Goat Anti-CRYAB Antibody**  
Peptide-affinity purified goat antibody  
Catalog # AF1279a

## Specification

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### Goat Anti-CRYAB Antibody - Product Information

Application	WB
Primary Accession	<a href="#">P02511</a>
Other Accession	<a href="#">NP_001876</a> , <a href="#">1410</a> , <a href="#">12955 (mouse)</a> , <a href="#">25420 (rat)</a>
Reactivity	Human, Mouse
Predicted	Rat
Host	Goat
Clonality	Polyclonal
Concentration	100ug/200ul
Isotype	IgG
Calculated MW	20159

### Goat Anti-CRYAB Antibody - 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

#### Format

0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

#### Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

#### Precautions

Goat Anti-CRYAB Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

### Goat Anti-CRYAB Antibody - 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)

### Goat Anti-CRYAB Antibody - Protocols

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

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

### Goat Anti-CRYAB Antibody - Images



AF1279a (0.01  $\mu$ g/ml) staining of mouse eye lysate (35  $\mu$ g protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.

### Goat Anti-CRYAB Antibody - Background

Crystallins are separated into two classes: taxon-specific, or enzyme, and ubiquitous. The latter class constitutes the major proteins of vertebrate eye lens and maintains the transparency and refractive index of the lens. Since lens central fiber cells lose their nuclei during development, these crystallins are made and then retained throughout life, making them extremely stable proteins. Mammalian lens crystallins are divided into alpha, beta, and gamma families; beta and gamma crystallins are also considered as a superfamily. Alpha and beta families are further divided into acidic and basic groups. Seven protein regions exist in crystallins: four homologous motifs, a

connecting peptide, and N- and C-terminal extensions. Alpha crystallins are composed of two gene products: alpha-A and alpha-B, for acidic and basic, respectively. Alpha crystallins can be induced by heat shock and are members of the small heat shock protein (sHSP also known as the HSP20) family. They act as molecular chaperones although they do not renature proteins and release them in the fashion of a true chaperone; instead they hold them in large soluble aggregates. Post-translational modifications decrease the ability to chaperone. These heterogeneous aggregates consist of 30-40 subunits; the alpha-A and alpha-B subunits have a 3:1 ratio, respectively. Two additional functions of alpha crystallins are an autokinase activity 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 is expressed widely in many tissues and organs. Elevated expression of alpha-B crystallin occurs in many neurological diseases; a missense mutation cosegregated in a family with a desmin-related myopathy.

### **Goat Anti-CRYAB Antibody - References**

Molecular chaperone alphaB-crystallin is expressed in the human fetal telencephalon at midgestation by a subset of progenitor cells. Kida E, et al. *J Neuropathol Exp Neurol*, 2010 Jul. PMID 20535031.

Sex-specific proteome differences in the anterior cingulate cortex of schizophrenia. Martins-de-Souza D, et al. *J Psychiatr Res*, 2010 Apr 8. PMID 20381070.

Analysis of multiple candidate genes in association with phenotypes of multiple sclerosis. Sombekke MH, et al. *Mult Scler*, 2010 Jun. PMID 20378664.

Later retinal degeneration following childhood surgical aphakia in a family with recessive CRYAB mutation (p.R56W). Khan AO, et al. *Ophthalmic Genet*, 2010 Mar. PMID 20141356.

Down regulation of the PEDF gene in human lens epithelium cells changed the expression of proteins vimentin and alphaB-crystallin. Yang J, et al. *Mol Vis*, 2010 Jan 26. PMID 20104255.