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Datasheet for 200-301-E84

Alpha A Crystallin Antibody

Overview

Description:	Anti-Alpha A Crystallin (MOUSE) Monoclonal Antibody - 200-301-E84
Item No.:	200-301-E84
Size:	200 µg
Applications:	IF, WB
Reactivity:	Human, Mouse, Rat, Bovine
Host Species:	Mouse

Product Details

Background:	The alpha-crystallins are major water-soluble lens structural proteins of the vertebrate eye that are related to the small heat shock protein family. The alpha-crystallins possess structural and functional similarities with Hsp25 and Hsp27. Mammalian lens cystallins are divided into alpha, beta and gamma families. Alpha and beta families are further divided into acidic and basic groups (Alpha-A and Alpha-B respectively). In the lens, alpha-crystallin primarily functions to maintain proper refractive index, however it can also function as a molecular chaperone that binds to the denatured proteins, keeping them in solution and thereby maintaining the translucency of the lens. When cellular stress occurs, alpha-crystallin enters its' phosphorylated state and may serve a structural control function and play a role in protein maintenance. In addition to their interaction with proteins, alpha-crystallins also interact with native molecules such as membrane proteins, Golgi matrix protein, structural proteins, nuclear proteins and DNA. Two other functions are an autokinase activity and participation in the intracellular architecture, and it has also been proven that both alpha-A and B prevent apoptosis by inhibiting caspases.
Synonyms:	Heat shock protein beta4, Acry 1, CRYA1, CRYAA, HspB4, Alpha-crystallin A chain
Host Species:	Mouse
Clonality:	Monoclonal
Clone ID:	1H3.B8
Format:	IgG1

Target Details

Gene Name:	CRYAA

Reactivity:	Human, Mouse, Rat, Bovine
Immunogen Type:	Native Protein
Immunogen:	Alpha Crystallin Antibody was produced in mice by repeated immunizations with Native Alpha Crystallin protein.
Purity/Specificity:	Anti-Alpha A Crystallin Antibody was purified by Protein G chromatography. A BLAST analysis was used to suggest cross-reactivity with Alpha A Crystallin from Human, Mouse, Cow, and Rat based on 100% homology with the immunizing sequence. Does not cross-react with αB-crystallin, βL-crystallin, BH- crystallin, γ-crystallin, Hsp25, Hsp27 or Hsp47 proteins. Cross-reactivity with Alpha A Crystallin from other sources has not been determined. Chaperones & Trafficking research.
Relevant Links:	• NCBI - NP_000385.1 • GeneID - 1409 • UniProtKB - P02489

Application Details

Tested Applications:	IF, WB
Application Note:	Anti-Alpha A Crystallin Antibody has been tested in WB and IF and is recommended for use in ELISA. Expect a band approximately ~20kDa protein corresponding to the molecular mass of α-crystallin on SDS PAGE immunoblots. Specific conditions for reactivity should be optimized by the end user.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.
ELISA:	1:200
WB:	1:2000

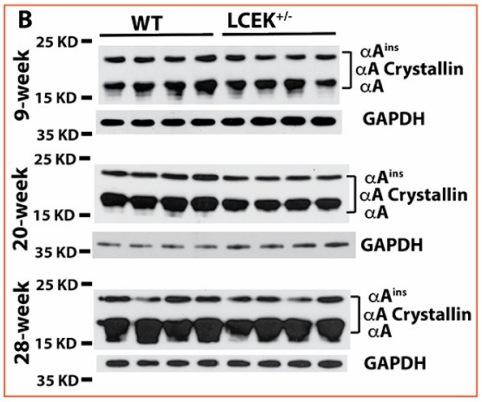
Formulation

Physical State:	Liquid (sterile filtered)
Concentration:	1.0 mg/ml by UV absorbance at 280 nm
Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Preservative:	0.09% (w/v) Sodium Azide
Stabilizer:	50% (v/v) Glycerol

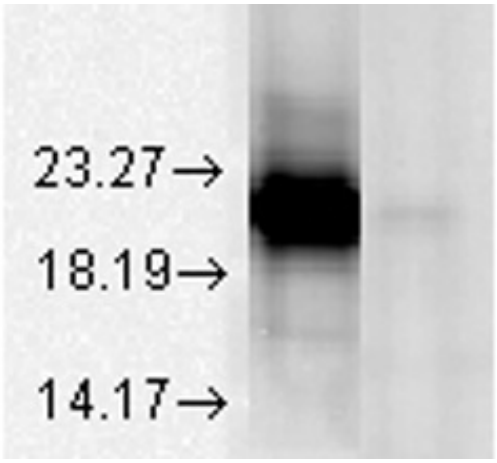
Shipping & Handling

Shipping Condition:	Dry Ice
Storage Condition:	Store vial at -20° C prior to opening. Aliquot contents and freeze at -20° C or below for extended storage. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.
Expiration:	Expiration date is one (1) year from date of receipt.

Images



Western Blot
(B) Lens αA crystallin protein expression at 9, 20, and 28 weeks of age. The lower band close to the 15KD marker is native αA crystallin, and the upper band close to 25KD is the αA crystallin insertion isoform. GAPDH serves as a loading control. Fig 1.
PMID: 36372215



Western Blot
Western Blot of mouse Anti-Alpha A Crystallin Antibody. Lane 1: AlphaA Crystallin Lane2: AlphaB Crystallin. Load: 20ug per lane. Primary antibody: AlphaA-Crystallin 1:1000 for overnight at 4°C . Secondary antibody: Goat anti-Mouse IgG HRP antibody at 1:40,000 for 45 min at RT. Block: 5% Blotto overnight at 4°C. Predicted/Observed size: 19.9 kDa, 20 kDa for Alpha A.

References

- Wei Z et al. A tamoxifen-inducible Cre knock-in mouse for lens-specific gene manipulation. *Exp Eye Res.* (2023)

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