αA/αB-Crystallin polyclonal antibody

Alpha-crystallins composed of alpha A (~20 kDa) and alpha B (~20 kDa) subunits, are major water-soluble proteins accounting for almost 50% of total protein in the mammalian transparent eye lens and they are also found in a variety of other tissues. The two other crystallin families, beta and gamma, are homologous to each other but not to the alpha family or the sHsp's. Alpha-crystallins are also referred to as small heat shock proteins, since they are induced by increased temperature in a variety of organisms. The alpha-crystallins have sequence homology as well as structural and functional similarities with the small Hsp's such as Hsp25/27. Most small heat shock proteins have four common structural and functional features: (i) molecular weight between 12 and 43kDa; (ii) the formation of large oligomeric complexes composed of alphaA-crystallin, alphaB-crystallin and Hsp25/27; (iii) the moderately conserved alpha-crystallin domain in the central region of the protein; and (iv) molecular chaperone activity. The alpha-crystallin domain comprises approximately 90 residues, is bounded by variable N-terminal and C-terminal extensions and is involved in oligomer assembly. Oligomers can reach 800kDa or more and are dynamic, exhibiting subunit exchanges and organizational plasticity, possibly leading to functional diversity. Phosphorylation of serine residues occurs during development and in response to stress, and usually decreases oligomer size. Chaperone activity requires, and is modulated by, oligomerization and is limited to binding unfolded intermediates to prevent irreversible aggregation, although productive release and refolding of denatured proteins requires close cooperation with other chaperones. Other proposed functions include a role in membrane stabilization and modulation of intermediate filament organization during physiological stress and neurodegenerative disease.

This antibody is covered by our Worry-Free Guarantee.

Citations: 6 View Online »

Ordering Information

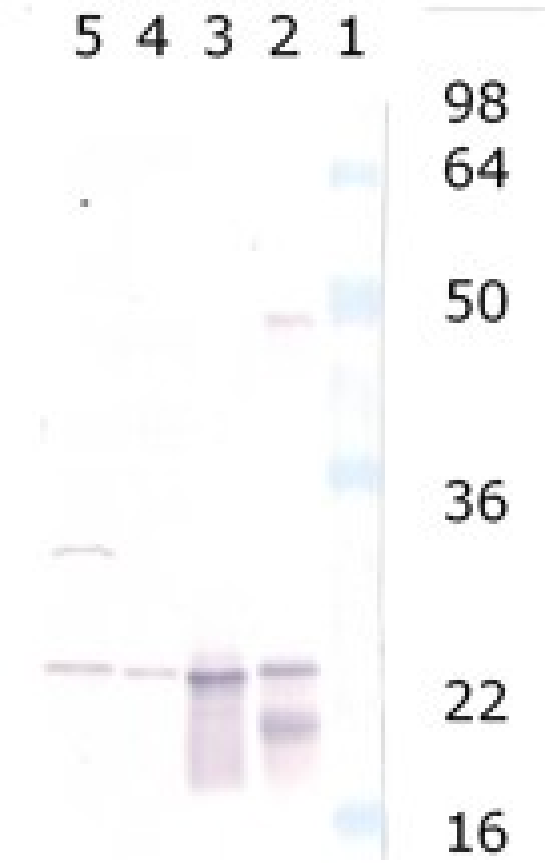
Order Online »

ADI-SPA-224-D	50µg

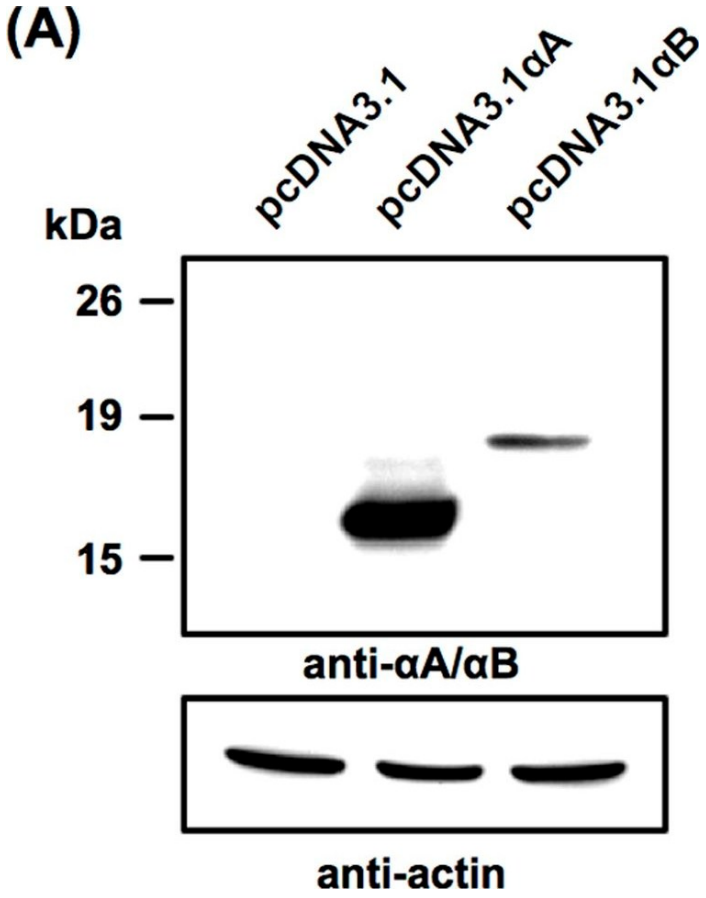
ADI-SPA-224-F	200µg

Manuals, SDS & CofA

View Online »

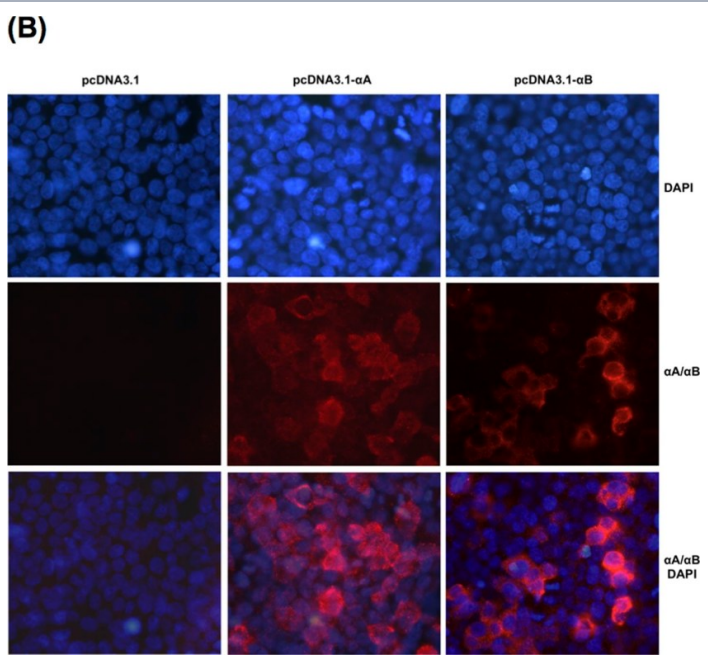


Western blot analysis: Lane 1: MWM, Lane 2: Prod. No. ADI-SPP-225, Lane 3: Prod. No. ADI-SPP-227, Lane 4: HeLa HS, Lane 5: Mouse Heart.



Expression of αA- and αB-crystallins in transiently transfected 293T cells.(A) Western blot analysis of αA- and αB-crystallin levels 24 h post-transfection. Fifty micrograms of total proteins from cell extracts were subjected to 12% SDS-PAGE and immunoassayed with anti-αA/αB-crystallin to detect the overexpressed α-crystallins and with anti-ß-actin as a control of equal protein loading. (B) Immunofluorescence analysis with anti-αA/αB-crystallin showing cytoplasmic expression of αA- (pcDNA3.1-αA) and αB- (pcDNA3.1-αB) crystallins 24 h post-transfection, while no detection was observed in cells transfected with the empty plasmid (pcDNA3.1).

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Handling & Storage

Long Term Storage	-20°C
Shipping	Blue Ice

Regulatory Status RUO - Research Use Only

Product Details

Alternative Name	CRYAA/CRYAB, HSPB4/HSPB5
Application	ICC, WB
Application Notes	Detects a band of ~20kDa by Western blot.
Formulation	Liquid. In PBS, pH 7.2, containing 0.09% sodium azide and 50% glycerol.
GenBank ID	U05569 (alphaA-crystallin), M28638 (alphaB-crystallin)
Host	Rabbit
Immunogen	Synthetic peptide corresponding to the sequence near the C-terminus of human αA- and αB-Crystallin.
Purity Detail	Protein A affinity purified.
Recommendation Dilutions/Conditions	Western Blot (1:1,000, colorimetric)Suggested dilutions/conditions may not be available for all applications.Optimal conditions must be determined individually for each application.
Source	Purified from rabbit serum.
Species Reactivity	Bovine, Human, Mouse
UniProt ID	P02489 (alphaA-crystallin), P02511 (alphaB-crystallin)
Worry-free Guarantee	**This antibody is covered by our Worry-Free Guarantee .**

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