



alpha A Crystallin Rabbit mAb

Catalog No	YP-rAb-17246
Isotype	IgG
Reactivity	Human,Mouse,Rat
Applications	WB,IHC,IF,ELISA
Gene Name	CRYAA CRYA1 HSPB4
Protein Name	Alpha-crystallin A chain (Heat shock protein beta-4) (HspB4)
Purification Process	Protein A
Specificity	Endogenous
Formulation	PBS, 50% glycerol, 0.05% Proclin 300, 0.05%BSA
Source	Monoclonal, Rabbit,IgG
Dilution	IHC 1:200-1:1000; WB 1:2000-1:10000; IF 1:200-1:1000; ELISA 1:5000-1:20000; Note: For IHC, we suggest antigen retrieval with TE buffer pH 9.0
Concentration	0.5 mg/ml
Purity	≥90%
Storage Stability	-15° C to -25° C/1 year(Do not lower than -25° C)
Synonyms	
Observed Band	20kD
Calculated Molecular Weight	20kD
Cell Pathway	Cytoplasm . Nucleus . Translocates to the nucleus during heat shock and resides in sub-nuclear structures known as SC35 speckles or nuclear splicing speckles.
Tissue Specificity	Expressed in the eye lens (at protein level).
Function	Disease:Crystallins do not turn over as the lens ages, providing ample opportunity for post-translational modifications or oxidations. These modifications may change crystallin solubility properties and favor senile cataract.,Disease:Defects in CRYAA are the cause of zonular central nuclear cataract [MIM:123580, 604219]; one of a considerable number of phenotypically and genotypically distinct forms of autosomal dominant cataract. This congenital cataract is a common major abnormality of the eye that frequently cause blindness in infants.,Function:May contribute to the transparency and refractive index of the lens.,mass spectrometry: PubMed:10930324,mass spectrometry: PubMed:8175657,mass spectrometry: PubMed:9655350,mass spectrometry:With 1 phosphate group PubMed:8175657,PTM:Deamidation of Asn-101 in lens occurs mostly during the first 30 years of age, followed by a small additional amount of deamidation (approximately 5%) during the next approximately 38





years, resulting in a maximum of approximately 50% deamidation during the lifetime of the individual.,PTM:O-glycosylated; contains N-acetylglucosamine side chains.,PTM:Phosphorylation on Ser-122 seems to be developmentally regulated. Absent in the first months of life, it appears during the first 12 years of human lifetime. The relative amount of phosphorylated form versus unphosphorylated form does not change over the lifetime of the individual.,similarity:Belongs to the small heat shock protein (HSP20) family.,

Background

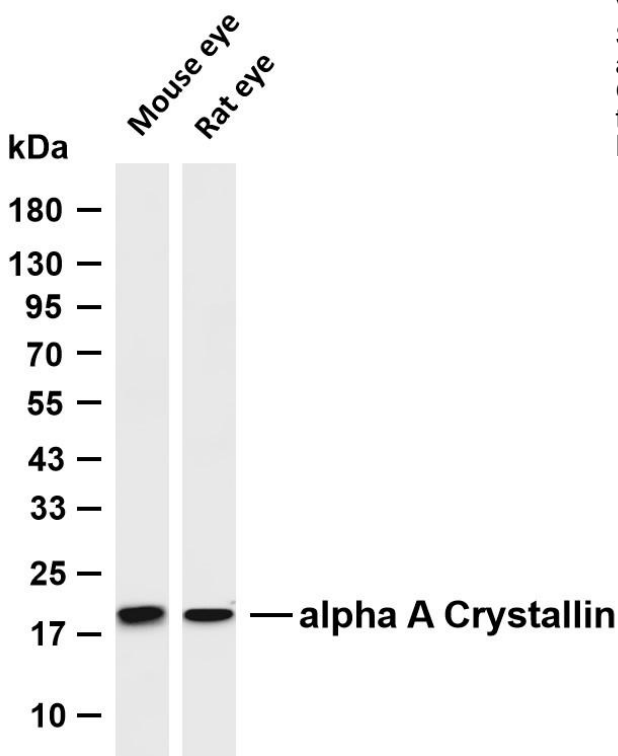
Mammalian lens crystallins are divided into alpha, beta, and gamma families. Alpha crystallins are composed of two gene products: alpha-A and alpha-B, for acidic and basic, respectively. Alpha crystallins can be induced by heat shock and are members of the small heat shock protein (HSP20) family. They 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. The encoded protein has been identified as a moonlighting protein based on its ability to perform mechanistically distinct

matters needing attention

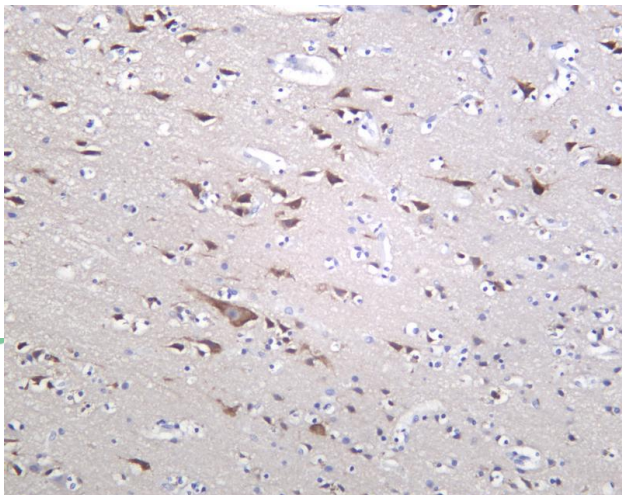
Avoid repeated freezing and thawing!

Usage suggestions

This product can be used in immunological reaction related experiments. For more information, please consult technical personnel.

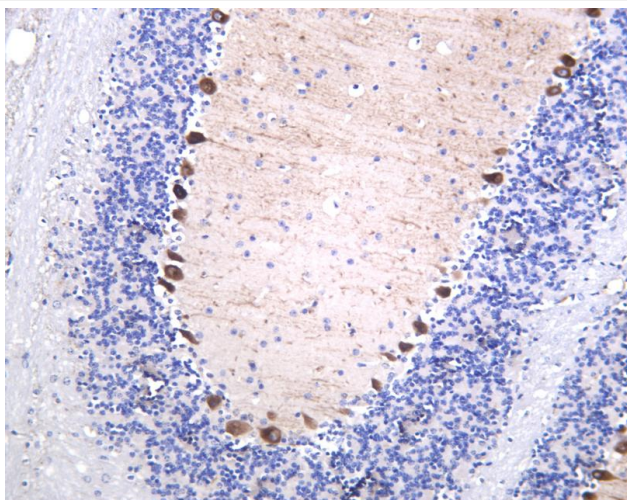


Various whole cell lysates were separated by 4-20% SDS-PAGE, and the membrane was blotted with anti-alpha A Crystallin antibody. The HRP-conjugated Goat anti-Rabbit IgG (H + L) antibody was used to detect the antibody. Lane 1: Mouse eye Lane 2: Rat eye Predicted band size: 20kDa Observed band size: 20kDa



Human brain was stained with anti-alpha A Crystallin Rabbit antibody





Mouse brain was stained with anti-alpha A Crystallin Rabbit antibody

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