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Anti-Alpha B Crystallin Antibody [1A7.D5]

Mouse Anti-Human Alpha B Crystallin Monoclonal IgG1
Catalog No. SMC-159



Discovery through partnership | Excellence through quality

Overview

Product Name

Alpha B Crystallin Antibody

Description

Mouse Anti-Human Alpha B Crystallin Monoclonal IgG1

Species Reactivity

Human, Rat, Bovine, Pig

Applications

WB, ELISA, ICC/IF

Antibody Dilution

WB (1:2000), ICC/IF (1:100); optimal dilutions for assays should be determined by the user.

Host Species

Mouse

Immunogen Species

Human

Immunogen

Native Alpha B Crystallin

Concentration

1 mg/ml

Conjugates

Alkaline Phosphatase, APC, ATTO 390, ATTO 488, ATTO 565, ATTO 594, ATTO 633, ATTO 655, ATTO 680, ATTO 700, Biotin, FITC, HRP, PE/ATTO 594, PerCP, RPE, Streptavidin, Unconjugated

Properties

Storage Buffer

PBS pH7.2, 50% glycerol, 0.09% sodium azide

Storage Temperature

-20°C

Shipping Temperature

Blue Ice or 4°C

Purification

Protein G Purified

Clonality

Monoclonal

Clone Number

1A7.D5

Isotype

IgG1

Specificity

Detects ~20kDa (Predicted mol. weight is ~21kDa). Does not cross-react with ?A-crystallin, ?L-crystallin, ?H-crystallin, ?-crystallin, HSP25, HSP27 or HSP47 proteins.

Cite This Product

Mouse Anti-Human Alpha B Crystallin Monoclonal, Clone 1A7.D5 (StressMarq Biosciences Inc., Victoria BC CANADA, Catalog # SMC-159)

Certificate Of Analysis

0.5 µg/ml of SMC-159 was sufficient for detection of 50 ng purified alpha B crystalline by colorimetric immunoblot analysis using Goat anti-mouse IgG:HRP as the secondary antibody.

Biological Description

Alternative Names

AACRYA Antibody, CRYA2 Antibody, CRYAB Antibody, CTPP2 Antibody, HSPB5 Antibody, NY Ren 27 antigen Antibody, alpha crystallin BAntibody

Research Areas

Cancer, Heat Shock, Cell Signaling, Chaperones, Neuroscience, Trafficking

Cellular Localization

Cytoplasm, Nucleus

Accession Number

NP_001876.1

Gene ID

1410

Swiss Prot

P02511

Scientific Background

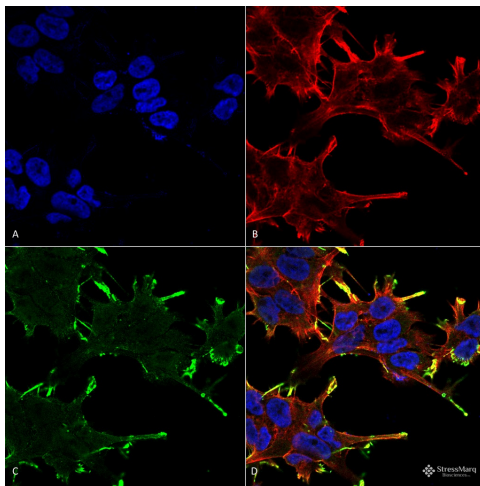
The alpha-crystallins are major water-soluble lens structural proteins of the vertebrate eye that are related to the small heat shock protein family. The alpha-crystallins possess structural and functional similarities with HSP25 and HSP27 (1). Mammalian lens crystallins are divided into alpha, beta 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 (2). 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 (3, 4, 5, 6, and 7). 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 (8). Specifically, alpha-B crystallin is found in many cells and organs outside the lens, and alpha B is overexpressed in several neurological disorders and in cell lines under stress conditions (9).

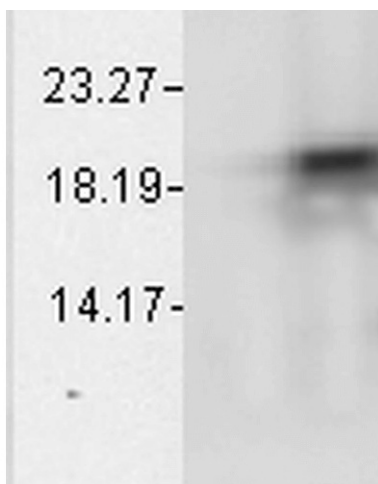
References

1. Merck K.B. et al. (1993) *J Biol Chem.* 268: 1046-1052.
2. Horwitz J. (1992) *Proc Natl Acad Sci USA.* 89(21): 10449-10453.
3. Cobb B.A. and Petrash J.M. (2002) *Biochemistry.* 41: 483-490
4. Horwitz J. (2003) *Exp Eye Res.* 76: 145-153.
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8. Yaung J., et al. (2007) *Molecular Vision* 13: 566-577.
9. Head M.W. et al. (2000) *Neuropathol Appl Neurobiol.* 26: 304-312.
10. Banduseela V.C., et al. (2009) *Physiol Genomics.* 39(3): 141-159.

Product Images



Immunocytochemistry/Immunofluorescence analysis using Mouse Anti-Alpha B Crystallin Monoclonal Antibody, Clone 1A7.D5 (SMC-159). Tissue: Neuroblastoma cell line SK-N-BE. Species: Human. Fixation: 4% Formaldehyde for 15 min at RT. Primary Antibody: Mouse Anti-Alpha B Crystallin Monoclonal Antibody (SMC-159) at 1:100 for 60 min at RT. Secondary Antibody: Goat Anti-Mouse ATTO 488 at 1:100 for 60 min at RT. Counterstain: Phalloidin Texas Red F-Actin stain; DAPI (blue) nuclear stain at 1:1000, 1:5000 for 60min RT, 5min RT. Localization: Membrane. Magnification: 60X. (A) DAPI (blue) nuclear stain (B) Phalloidin Texas Red F-Actin stain (C) Alpha B Crystallin Antibody (D) Composite.



Western Blot analysis of Bovine cell lysates showing detection of Alpha B Crystallin protein using Mouse Anti-Alpha B Crystallin Monoclonal Antibody, Clone 1A7.D5 (SMC-159). Load: 15 μ g protein. Block: 1.5% BSA for 30 minutes at RT. Primary Antibody: Mouse Anti-Alpha B Crystallin Monoclonal Antibody (SMC-159) at 1:50 for 2 hours at RT. Secondary Antibody: Sheep Anti-Mouse IgG: HRP for 1 hour at RT.

Product Citations (5)

Western Blot

Masseter muscle myofibrillar protein synthesis and degradation in an experimental critical illness myopathy model.

Akkad, H., Corpeno, R., Larsson L. (2014) *PLoS One.* 9(4): e92622.

PubMed ID: 24705179 **Reactivity:** Rat **Applications:** Western Blot

Molecular and Cellular Networks in Critical Illness Associated Muscle Weakness: Skeletal Muscle Proteostasis in the Intensive Care Unit.

Banduseela, V.C. (2012) Uppsala University, Disciplinary Domain of Medicine and Pharmacy, Faculty of Medicine, Department of Neuroscience. PhD Dissertation

PubMed ID: **Reactivity:** Pig **Applications:** Western Blot

Mechanisms underlying the sparing of masticatory versus limb muscle function in an experimental critical illness model.

Aare, S. et al. (2011) *Physiol Genomics*. 43 (24): 1334-1350.

PubMed ID: 22010006 **Reactivity:** Pig **Applications:** Western Blot

Preferential skeletal muscle myosin loss in response to mechanical silencing in a novel rat intensive care unit model: underlying mechanisms.

Ochala, J. et al. (2011) *J Physio*. 589 (8).2007-2026.

PubMed ID: 21320889 **Reactivity:** Rat **Applications:** Western Blot

Gene expression and muscle fiber function in a porcine ICU model.

Banduseela, V.C. et al. (2009) *Physiol Genomics*. 39 (3): 141-159.

PubMed ID: 19706692 **Reactivity:** Pig **Applications:** Western Blot

Reviews

Based on validation through cited publications.



StressMarq Biosciences
June 14, 2016: