

Anti-Alpha B Crystallin

Catalog# SPC-126A/B

Size: 50/200µL

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This product is for *in vitro* research use only and is not intended for use in humans or animals

StressMarq

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Product	Rabbit anti-alpha crystallin antibody; polyclonal
Clone	N/A
Immunogen	Synthetic peptide corresponding to human alpha B crystallin conjugated to KLH.
Host and Subclass	Rabbit
Applications	WB, IHC, ICC
Specificity	Detects ~22kDa, does not cross-react with alpha A crystallin
Species cross-reactivity	Human, Mouse, Rat, Cow, Chicken
Format	Whole Rabbit Serum
Working Dilution	WB 1:5000-10000 (ECL)
Storage and stability	-20°C; 1 year+; shipped on cold packs or ambient

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).

Selected 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.
5. Bullard B. *et al.* (2004) *J Biol Chem.* 279: 7917-7924.
6. Gangalum R.K., Schibler M.J. and Bhat S.P. (2004) *J Biol Chem.* 279: 43374.43377.
7. Maddala R. and Rao V.P. (2005) *Exp Cell Res.* 306: 203-215.
8. Yaung J., *et al.* (2007) *Molecular Vision* 13: 566-577.
9. Head M.W. *et al.* (2000) *Neuropathol Appl Neurobiol.* 26: 304-312.

Certificate of Analysis

A 1:5000 dilution of SPC-126 was sufficient for detection of alpha B crystallin in 20µg of HeLa cell lysate by ECL immunoblot analysis.

Material Safety Data Sheet

Anti-alpha B Crystallin (Polyclonal Antibody) SPC-126

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The below information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. StressMarq shall not be held liable for any damage resulting from handling or from contact with the above product. See the Technical Specification, Packing Slip, Invoice, and Product Catalogue for additional terms and conditions of sale.

Hazardous Ingredients

The physical, chemical and toxicological properties of these components have not been fully investigated. It is recommended that all laboratory personnel follow standard laboratory safety procedures when handling this product. Safety procedures should include wearing OSHA approved safety glasses, gloves and protective clothing. Direct physical contact with this product should be avoided.

<u>Known Hazardous Components</u>	<u>CAS Number</u>	<u>Percent</u>
None		

Physical Data

This product consists of whole rabbit serum shipped on gel packs. The physical properties of this product have not been investigated thoroughly.

Fire and Explosion Hazard and Reactivity Data

NOT APPLICABLE

Toxicological Properties

May be harmful by inhalation, ingestion, or skin absorption. The toxicological properties of this product have not been investigated thoroughly. Exercise due caution.

Preventative Measures

Wear chemical safety goggles and compatible chemical-resistant gloves. Avoid inhalation, contact with eyes, skin or clothing.

Spill and Leak Procedures

Observe all federal, state and local environmental regulations.

- Wear protective equipment.
- Absorb on sand or vermiculite and place in closed containers for disposal.
- Dispose or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

First Aid Measures

- If swallowed, wash out mouth with water, provided person is conscious. Call a physician.
- In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. If a rash or other irritation develops, call a physician.
- If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.
- In case of eye contact, flush with copious amounts of water for at least 15 minutes while separating the eyelids with fingers. Call a physician.

Authorized: StressMarq Biosciences Inc.
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