



# SZABO SCANDIC

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- Gefahrgutzuschlag
- Expressversand

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# $\alpha$ B-crystallin (h4): 293T Lysate: sc-159467

## BACKGROUND

Crystallins are the major proteins of the vertebrate eye lens, where they maintain the transparency and refractive index of the lens. Crystallins are divided into  $\alpha$ ,  $\beta$  and  $\gamma$  families, and the  $\beta$ - and  $\gamma$ -crystallins also compose a superfamily. Crystallins usually contain seven distinct protein regions, including four homologous motifs, a connecting peptide, and N- and C-terminal extensions.  $\alpha$ -crystallins consist of three gene products,  $\alpha$ A-,  $\alpha$ B- and  $\alpha$ C-crystallin, which are members of the small heat shock protein family (HSP 20).  $\alpha$ -crystallins act as molecular chaperones by holding denatured proteins in large soluble aggregates. However, unlike other molecular chaperones,  $\alpha$ -crystallins do not renature these proteins. Expression of  $\alpha$ A-crystallin is restricted to the lens and defects of this gene cause the development of autosomal dominant congenital cataracts (ADCC). The human  $\alpha$ B-crystallin gene product is expressed in many tissues, including lens, heart and skeletal muscle. Elevated expression of  $\alpha$ B-crystallin is associated with many neurological diseases, and a missense mutation in this gene has co-segregated in a family with a Desmin-related myopathy.

## REFERENCES

1. Neuffer, P.D., et al. 1996. Differential expression of B-crystallin and HSP 27 in skeletal muscle during continuous contractile activity. Relationship to myogenic regulatory factors. *J. Biol. Chem.* 271: 24089-24095.
2. Litt, M., et al. 1998. Autosomal dominant congenital cataract associated with a missense mutation in the human  $\alpha$ -crystallin gene CRYAA. *Hum. Mol. Genet.* 7: 471-474.
3. Haley, D.A., et al. 1998. The small heat shock protein,  $\alpha$ B-crystallin, has a variable quaternary structure. *J. Mol. Biol.* 277: 27-35.
4. Bova, M.P., et al. 1999. Mutation R120G in  $\alpha$ B-crystallin, which is linked to a Desmin-related myopathy, results in an irregular structure and defective chaperone-like function. *Proc. Natl. Acad. Sci. USA* 96: 6137-6142.
5. Wang, K., et al. 2000.  $\alpha$ -crystallin prevents irreversible protein denaturation and acts cooperatively with other heat shock proteins to renature the stabilized partially denatured protein in an ATP-dependent manner. *Eur. J. Biochem.* 267: 4705-4712.
6. Jaenicke, R., et al. 2001. Lens crystallins and their microbial homologs: structure, stability and function. *Crit. Rev. Biochem. Mol. Biol.* 36: 435-499.
7. Narberhaus, F. 2002.  $\alpha$ -crystallin-type heat shock proteins: socializing minichaperones in the context of a multichaperone network. *Microbiol. Mol. Biol. Rev.* 66: 64-93.
8. LocusLink Report (LocusID: 1409). <http://www.ncbi.nlm.nih.gov/LocusLink/>

## CHROMOSOMAL LOCATION

Genetic locus: CRYAB (human) mapping to 11q23.1.

## PRODUCT

$\alpha$ B-crystallin (h4): 293T Lysate represents a lysate of human  $\alpha$ B-crystallin transfected 293T cells and is provided as 100  $\mu$ g protein in 200  $\mu$ l SDS-PAGE buffer.

## APPLICATIONS

$\alpha$ B-crystallin (h4): 293T Lysate is suitable as a Western Blotting positive control for human reactive  $\alpha$ B-crystallin antibodies. Recommended use: 10-20  $\mu$ l per lane.

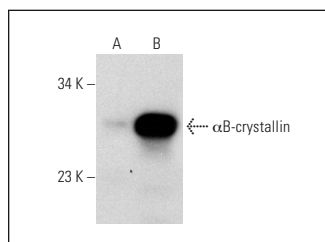
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

$\alpha$ B-crystallin (C-8): sc-137144 is recommended as a positive control antibody for Western Blot analysis of enhanced human  $\alpha$ B-crystallin expression in  $\alpha$ B-crystallin transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

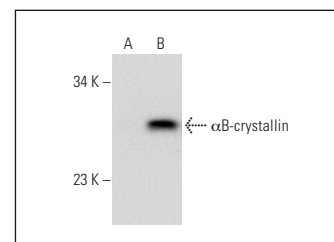
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:  
 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

## DATA



$\alpha$ B-crystallin (C-8): sc-137144. Western blot analysis of  $\alpha$ B-crystallin expression in non-transfected: sc-117752 (A) and human  $\alpha$ B-crystallin transfected: sc-159467 (B) 293T whole cell lysates.



$\alpha$ B-crystallin (A-7): sc-137143. Western blot analysis of  $\alpha$ B-crystallin expression in non-transfected: sc-117752 (A) and human  $\alpha$ B-crystallin transfected: sc-159467 (B) 293T whole cell lysates.

## STORAGE

Store at -20 $^{\circ}$  C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.