

αB-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 α , β and γ families, and the β - and γ -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. α -crystallins consist of three gene products, αA -, αB - and αC -crystallin, which are members of the small heat shock protein family (HSP 20). α -crystallins act as molecular chaperones by holding denatured proteins in large soluble aggregates. However, unlike other molecular chaperones, α -crystallins do not renature these proteins. Expression of αA -crystallin is restricted to the lens and defects of this gene cause the development of autosomal dominant congenital cataracts (ADCC). The human αB -crystallin gene product is expressed in many tissues, including lens, heart and skeletal muscle. Elevated expression of αB -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 α -crystallin gene CRYAA. *Hum. Mol. Genet.* 7: 471-474.
3. Haley, D.A., et al. 1998. The small heat shock protein, αB -crystallin, has a variable quaternary structure. *J. Mol. Biol.* 277: 27-35.
4. Bova, M.P., et al. 1999. Mutation R120G in αB -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. α -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. α -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

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

APPLICATIONS

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

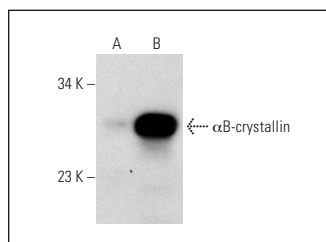
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

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

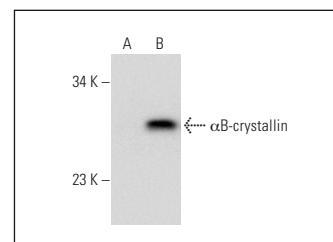
RECOMMENDED SUPPORT REAGENTS

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

DATA



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



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

STORAGE

Store at -20° 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 for detailed protocols and support products.