

# $\alpha$ B-crystallin (FL-175): sc-22744

## 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). They are induced by heat shock, and 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. Defects in this gene cause 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.

## CHROMOSOMAL LOCATION

Genetic locus: CRYAB (human) mapping to 11q23.1; Cryab (mouse) mapping to 9 A5.3.

## SOURCE

$\alpha$ B-crystallin (FL-175) is a rabbit polyclonal antibody raised against amino acids 1-175 representing full length  $\alpha$ B-crystallin of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

$\alpha$ B-crystallin (FL-175) is recommended for detection of  $\alpha$ B-crystallin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

$\alpha$ B-crystallin (FL-175) is also recommended for detection of  $\alpha$ B-crystallin in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for  $\alpha$ B-crystallin siRNA (h): sc-40432,  $\alpha$ B-crystallin siRNA (m): sc-40433,  $\alpha$ B-crystallin shRNA Plasmid (h): sc-40432-SH,  $\alpha$ B-crystallin shRNA Plasmid (m): sc-40433-SH,  $\alpha$ B-crystallin shRNA (h) Lentiviral Particles: sc-40432-V and  $\alpha$ B-crystallin shRNA (m) Lentiviral Particles: sc-40433-V.

Molecular Weight (predicted) of  $\alpha$ B-crystallin: 20 kDa.

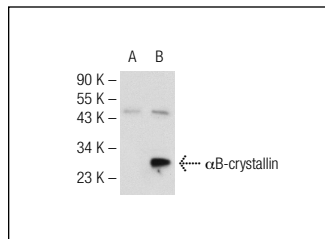
Molecular Weight (observed) of  $\alpha$ B-crystallin: 22-30 kDa.

Positive Controls:  $\alpha$ B-crystallin (h): 293 Lysate: sc-127880, Y79 cell lysate: sc-2240 or rat heart extract: sc-2393.

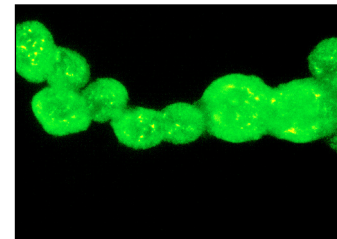
## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## DATA



$\alpha$ B-crystallin (FL-175): sc-22744. Western blot analysis of  $\alpha$ B-crystallin expression in non-transfected: sc-110760 (A) and human  $\alpha$ B-crystallin transfected: sc-127880 (B) 293 whole cell lysates.



$\alpha$ B-crystallin (FL-175): sc-22744. Immunofluorescence staining of methanol-fixed Y79 cells showing cytoplasmic localization.

## SELECT PRODUCT CITATIONS

1. Tseng, W.C., et al. 2006. Redistribution of GFAP and  $\alpha$ B-crystallin after thermal stress in C6 glioma cell line. *J. Biomed. Sci.* 13: 681-694.
2. Forlino, A., et al. 2007. Differential expression of both extracellular and intracellular proteins is involved in the lethal or nonlethal phenotypic variation of BrtlIV, a murine model for osteogenesis imperfecta. *Proteomics* 7: 1877-1891.
3. Lee, K., et al. 2008. Overcoming muscle atrophy in a hibernating mammal despite prolonged disuse in dormancy: proteomic and molecular assessment. *J. Cell. Biochem.* 104: 642-656.
4. Lee, M.J., et al. 2009. Characteristics of ethylnitrosourea-induced cataracts. *Curr. Eye Res.* 34: 360-368.
5. Li, Z., et al. 2009. Proteomic profiling reveals comprehensive insights into adrenergic receptor-mediated hypertrophy in neonatal rat cardiomyocytes. *Proteomics Clin. Appl.* 3: 1407-1421.
6. Yang, J., et al. 2010. Down regulation of the PEDF gene in human lens epithelium cells changed the expression of proteins vimentin and  $\alpha$ B-crystallin. *Mol. Vis.* 16: 105-112.
7. Xu, G.X., et al. 2011.  $\alpha$ B-crystallin malondialdehyde, superoxide dismutase, and glutathione peroxidase changes in X-ray irradiated rat lens. *Int. J. Ophthalmol.* 4: 365-370.

## RESEARCH USE

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


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Try  **$\alpha$ B-crystallin (F-10): sc-137129** or  **$\alpha$ B-crystallin (C-5): sc-398079**, our highly recommended monoclonal alternatives to  $\alpha$ B-crystallin (FL-175).