

# βB2-crystallin (H-1): sc-376007

## 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 comprise a superfamily. Crystallins usually contain seven distinctive protein regions, including four homologous motifs, a connecting peptide, and N- and C-terminal extensions.  $\beta$ -crystallins constitute the major lens structural proteins, and they associate into dimers, tetramers, and higher order aggregates. The  $\beta$ -crystallin subfamily is composed of several gene products, including  $\beta$ A1-,  $\beta$ A2-,  $\beta$ A3-,  $\beta$ A4-,  $\beta$ B1-,  $\beta$ B2- and  $\beta$ B3-crystallin. The  $\beta$ A1- and  $\beta$ A3-crystallin proteins are encoded by a single mRNA. They differ by only 17 amino acids, and  $\beta$ A1-crystallin is generated by use of an alternate translation initiation site.

## REFERENCES

- Hope, J.N., et al. 1994.  $\beta$ A3/A1-crystallin association: role of the N-terminal arm. *Protein Eng.* 7: 445-451.
- Hejtmancik, J.F., et al. 1997. Association properties of  $\beta$ B2- and  $\beta$ A3-crystallin: ability to form dimers. *Protein Eng.* 10: 1347-1352.
- Werten, P.J., et al. 1999. The short 5' untranslated region of the  $\beta$ A3/A1-crystallin mRNA is responsible for leaky ribosomal scanning. *Mol. Biol. Rep.* 26: 201-205.
- Slingsby, C., et al. 1999. Structure of the crystallins. *Eye* 13: 395-402.
- Horwitz, J. 2003.  $\alpha$ -crystallin. *Exp. Eye Res.* 76: 145-153.
- Hejtmancik, J.F., et al. 2004.  $\beta$ -crystallin association. *Exp. Eye Res.* 79: 377-383.
- Bhat, S.P. 2004. Transparency and non-refractive functions of crystallins—a proposal. *Exp. Eye Res.* 79: 809-816.
- Paulin, D., et al. 2004. Desminopathies in muscle disease. *J. Pathol.* 204: 418-427.
- LocusLink Report (LocusID: 1411). <http://www.ncbi.nlm.nih.gov/LocusLink>

## CHROMOSOMAL LOCATION

Genetic locus: CRYBB2 (human) mapping to 22q11.23; Crybb2 (mouse) mapping to 5 F.

## SOURCE

$\beta$ B2-crystallin (H-1) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 29-67 within an internal region of  $\beta$ B2-crystallin of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-376007 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

$\beta$ B2-crystallin (H-1) is recommended for detection of  $\beta$ B2-crystallin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

$\beta$ B2-crystallin (H-1) is also recommended for detection of  $\beta$ B2-crystallin in additional species, including canine and bovine.

Suitable for use as control antibody for  $\beta$ B2-crystallin siRNA (h): sc-40444,  $\beta$ B2-crystallin siRNA (m): sc-40445,  $\beta$ B2-crystallin shRNA Plasmid (h): sc-40444-SH,  $\beta$ B2-crystallin shRNA Plasmid (m): sc-40445-SH,  $\beta$ B2-crystallin shRNA (h) Lentiviral Particles: sc-40444-V and  $\beta$ B2-crystallin shRNA (m) Lentiviral Particles: sc-40445-V.

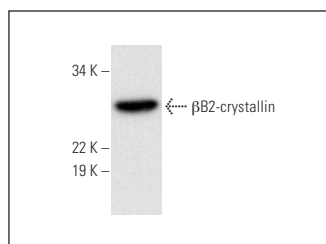
Molecular Weight of  $\beta$ B2-crystallin: 24 kDa.

Positive Controls: mouse eye extract: sc-364241 or rat eye extract: sc-364805.

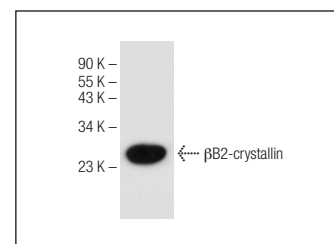
## RECOMMENDED SUPPORT REAGENTS

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™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## DATA



$\beta$ B2-crystallin (H-1): sc-376007. Western blot analysis of  $\beta$ B2-crystallin expression in mouse eye tissue extract.



$\beta$ B2-crystallin (H-1): sc-376007. Western blot analysis of  $\beta$ B2-crystallin expression in rat eye tissue extract.

## STORAGE

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

## RESEARCH USE

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