

βB1-crystallin (A-20): sc-22405

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

REFERENCES

- Hope, J.N., Chen, H.C. and Hejtmancik, J.F. 1994. β A3/A1-crystallin association: role of the N-terminal arm. *Protein Eng.* 7: 445-451.
- Hejtmancik, J.F., Wingfield, P.T., Chambers, C., Russell, P., Chen, H.C., Sergeev, Y.V. and Hope, J.N. 1997. Association properties of β B2- and β A3-crystallin: ability to form dimers. *Protein Eng.* 10: 1347-1352.
- Slingsby, C. and Clout, N.J. 1999. Structure of the crystallins. *Eye* 13: 395-402.
- Werten, P.J., Stege, G.J. and de Jong, W.W. 1999. The short 5' untranslated region of the β A3/A1-crystallin mRNA is responsible for leaky ribosomal scanning. *Mol. Biol. Rep.* 26: 201-205.
- Horwitz, J. 2003. α -crystallin. *Exp. Eye Res.* 76: 145-153.
- Hejtmancik, J.F., Wingfield, P.T. and Sergeev, Y.V. 2004. β -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.

CHROMOSOMAL LOCATION

Genetic locus: CRYBB1 (human) mapping to 22q12.1; Crybb1 (mouse) mapping to 5 F.

SOURCE

β B1-crystallin (A-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of β B1-crystallin of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-22405 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

β B1-crystallin (A-20) is recommended for detection of β B1-crystallin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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).

β B1-crystallin (A-20) is also recommended for detection of β B1-crystallin in additional species, including equine, canine and porcine.

Suitable for use as control antibody for β B1-crystallin siRNA (h): sc-40442, β B1-crystallin siRNA (m): sc-40443, β B1-crystallin shRNA Plasmid (h): sc-40442-SH, β B1-crystallin shRNA Plasmid (m): sc-40443-SH, β B1-crystallin shRNA (h) Lentiviral Particles: sc-40442-V and β B1-crystallin shRNA (m) Lentiviral Particles: sc-40443-V.

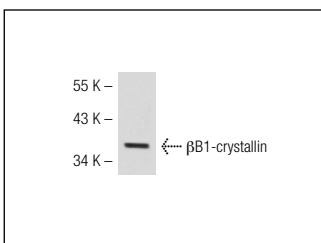
Molecular Weight of β B1-crystallin: 28 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



β B1-crystallin (A-20): sc-22405. Western blot analysis of β B1-crystallin expression in MCF7 whole cell lysate.

SELECT PRODUCT CITATIONS

- Lee, M.J., Kim, J.Y., Kim, Y.J., Cho, J.W., Cho, K.H., Song, C.W. and Jung, H.S. 2009. Characteristics of ethylnitrosourea-induced cataracts. *Curr. Eye Res.* 34: 360-368.

RESEARCH USE

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