

β -crystallin (FL-252): sc-22745

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. The genes for β A4, β B1, β B2 and β B3-crystallin are clustered on human chromosome 22q11, while the genes for β A3/A1 and β A2-crystallin map to human chromosomes 17q11 and 2q34, respectively.

REFERENCES

- Hope, J.N., et al. 1994. β A3/A1-crystallin association: role of the N-terminal arm. *Protein Eng.* 7: 445-451.
- Hejtmancik, J.F., et al. 1997. Association properties of β B2- and β A3-crystallin: ability to form dimers. *Protein Eng.* 10: 1347-1352.
- Slingsby, C., et al. 1999. Structure of the crystallins. *Eye* 13: 395-402.
- Werten, P.J., et al. 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.

SOURCE

β -crystallin (FL-252) is a rabbit polyclonal antibody raised against amino acids 1-252 representing full length 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.

APPLICATIONS

β -crystallin (FL-252) is recommended for detection of β B1-crystallin and, to a lesser extent, β A1/3, A2, A4, B2 and B3-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).

Molecular Weight of β -crystallin: 29 kDa.

Positive Controls: mouse eye extract: sc-364241, β B1-crystallin (h2): 293T Lysate: sc-128077 or β B1-crystallin (m): 293T Lysate: sc-118649.

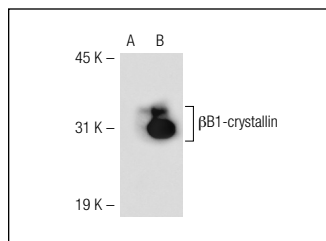
RESEARCH USE

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

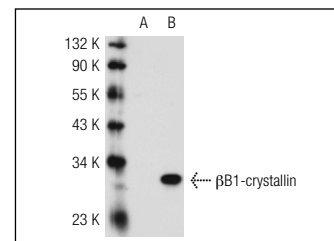
STORAGE

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

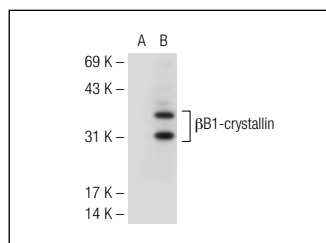
DATA



β -crystallin (FL-252): sc-22745. Western blot analysis of β B1-crystallin expression in non-transfected: sc-117752 (A) and mouse β B1-crystallin transfected: sc-118649 (B) 293T whole cell lysates.



β -crystallin (FL-252): sc-22745. Western blot analysis of β B1-crystallin expression in non-transfected: sc-117752 (A) and human β B1-crystallin transfected: sc-115374 (B) 293T whole cell lysates.



β -crystallin (FL-252): sc-22745. Western blot analysis of β B1-crystallin expression in non-transfected: sc-117752 (A) and human β B1-crystallin transfected: sc-128077 (B) 293T whole cell lysates.



β -crystallin (FL-252): sc-22745. Immunofluorescence staining of methanol-fixed Y79 cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Burgess, D., et al. 2010. Activated Ras alters lens and corneal development through induction of distinct downstream targets. *BMC Dev. Biol.* 10: 13.
- Yang, C., et al. 2010. Efficient generation of lens progenitor cells and lentoid bodies from human embryonic stem cells in chemically defined conditions. *FASEB J.* 24: 3274-3283.
- Ren, S., et al. 2010. Physiological expression of lens α -, β -, and γ -crystallins in murine and human corneas. *Mol. Vis.* 16: 2745-2752.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



MONOS
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Try **β B1-crystallin (H-3): sc-48335** or **β B2-crystallin (B-12): sc-376006**, our highly recommended monoclonal alternatives to β -crystallin (FL-252).