SANTA CRUZ BIOTECHNOLOGY, INC.

βA4-crystallin (E-20): sc-22403

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 βA1-, βA2-, βA3-, βA4-, βB1-, βB2- and βB3-crystallin. The βA1- and βA3-crystallin proteins are encoded by a single mRNA. They differ by only 17 amino acids, and βA1-crystallin is generated by use of an alternate translation initiation site.

REFERENCES

1. Hope, J.N., et al. 1994. βA3/A1-crystallin association: role of the N-terminal arm. Protein Eng. 7: 445-451.
2. Hejtmancik, J.F., et al. 1997. Association properties of βB2- and βA3-crystallin: ability to form dimers. Protein Eng. 10: 1347-1352.
3. Werten, P.J., et al. 1999. The short 5' untranslated region of the βA3/A1-crystallin mRNA is responsible for leaky ribosomal scanning. Mol. Biol. Rep. 26: 201-205.
4. Slingsby, C., et al. 1999. Structure of the crystallins. Eye 13: 395-402.
5. Horwitz, J., 2003. α-crystallin. Exp. Eye Res. 76: 145-153.
6. Hejtmancik, J.F., et al. 2004. β-crystallin association. Exp. Eye Res. 79: 377-383.
7. Bhat, S.P. 2004. Transparency and non-refractive functions of crystallins—a proposal. Exp. Eye Res. 79: 809-816.
8. Paulin, D., et al. 2004. Desminopathies in muscle disease. J. Pathol. 204: 418-427.
9. LocusLink Report (LocusID: 1411). http://www.ncbi.nlm.nih.gov/LocusLink

CHROMOSOMAL LOCATION

Genetic locus: CRYBA4 (human) mapping to 22q12.1; Cryba4 (mouse) mapping to 5 F.

SOURCE

βA4-crystallin (E-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of βA4-crystallin of human origin.

STORAGE

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

PROTOCOLS

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

PRODUCT

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

Blocking peptide available for competition studies, sc-22403 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

βA4-crystallin (E-20) is recommended for detection of βA4-crystallin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

βA4-crystallin (E-20) is also recommended for detection of βA4-crystallin in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for βA4-crystallin siRNA (h): sc-40440, βA4-crystallin siRNA (m): sc-40441, βA4-crystallin shRNA Plasmid (h): sc-40440-SH, βA4-crystallin shRNA Plasmid (m): sc-40441-SH, βA4-crystallin shRNA (h) Lentiviral Particles: sc-40440-V and βA4-crystallin shRNA (m) Lentiviral Particles: sc-40441-V.

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) 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.

SELECT PRODUCT CITATIONS

1. Lee, M.J., et al. 2009. Characteristics of ethylnitrosourea-induced cataracts. Curr. Eye Res. 34: 360-368.

RESEARCH USE

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