SANTA CRUZ BIOTECHNOLOGY, INC.

γN-crystallin (C-20): sc-22419

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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. γ-crystallins are structural proteins in the lens, and they exists as monomers, which typically lack connecting peptides and terminal extensions. The γ-crystallins include seven closely related proteins designated γA-, γB-, γC-, γD-, γE-, γF-, and γG-crystallin, which all map to human chromosome 2q33. This family also includes the γN and γS-crystallin genes, which map to human chromosomes 7 and 3, respectively. The γ-crystallins are differentially regulated after early development, and are involved in cataract formation as a result of either age-related protein degradation or genetic mutation.

REFERENCES

1. Srivastava, O.P., et al. 1998. Purification of γ-crystallin from human lenses by acetone precipitation method. Curr. Eye Res. 17: 1074-1081.
2. Klok, E.J., et al. 1998. Regulation of expression within a gene family. The case of the rat γB- and γD-crystallin promoters. J. Biol. Chem. 273: 17206-17215.
3. Srivastava, O.P., et al. 1998. Degradation of γD- and γS-crystallins in human lenses. Biochem. Biophys. Res. Commun. 253: 288-294.
4. Stephan, D.A., et al. 1999. Progressive juvenile-onset punctate cataracts caused by mutation of the γD-crystallin gene. Proc. Natl. Acad. Sci. USA 96: 1008-1012.
5. Jaenicke, R., et al. 2001. Lens crystallins and their microbial homologs: structure, stability, and function. Crit. Rev. Biochem. Mol. Biol. 36: 435-499.
6. Pande, A., et al. 2001. Crystal cataracts: human genetic cataract caused by protein crystallization. Proc. Natl. Acad. Sci. USA 98: 6116-6120.
7. LocusLink Report (LocusID: 1420). http://www.ncbi.nlm.nih.gov/LocusLink

CHROMOSOMAL LOCATION

Genetic locus: CRYGN (human) mapping to 7q36.1; Crygn (mouse) mapping to 5 A3.

SOURCE

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

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-22419 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

γN-crystallin (C-20) is recommended for detection of γN-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).

γN-crystallin (C-20) is also recommended for detection of γN-crystallin in additional species, including bovine.

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.

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.

PROTOCOLS

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