

γ -crystallin (P-18): sc-22415

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 exist as monomers which typically lack connecting peptides and terminal extensions. The γ -crystallins include seven closely related proteins γ A, γ B, γ C, γ D, γ E, γ F, and γ G-crystallin, as well as the γ N and γ S-crystallin genes. 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 γ B- and γ D-crystallin promoters. *J. Biol. Chem.* 273: 17206-17215.
3. Srivastava, O.P., et al. 1998. Degradation of γ D- and γ S-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 γ D-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. Wang, X., et al. 2004. Expression and regulation of α -, β -, and γ -crystallins in mammalian lens epithelial cells. *Invest. Ophthalmol. Vis. Sci.* 45: 3608-3619.
8. LocusLink Report (LocusID: 1420). <http://www.ncbi.nlm.nih.gov/LocusLink>

SOURCE

γ -crystallin (P-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of γ -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-22415 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

γ -crystallin (P-18) is recommended for detection of γ A, γ B, γ C, γ D, γ E, γ F and, to a lesser extent, γ S-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).

γ -crystallin (P-18) is also recommended for detection of γ -crystallin γ A, γ B, γ C, γ D, γ E, γ F and, to a lesser extent, γ S in additional species, including canine, bovine and porcine.

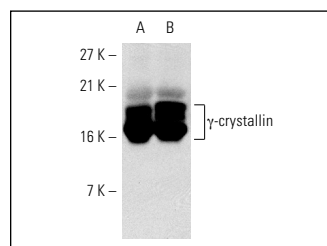
Molecular Weight of γ -crystallin: 20 kDa.

Positive Controls: rat eye extract: sc-364805, mouse eye extract: sc-364241 or Y79 cell lysate: sc-2240.

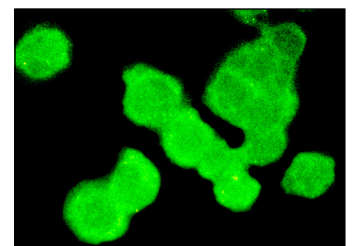
RECOMMENDED SECONDARY REAGENTS

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



γ -crystallin (P-18): sc-22415. Western blot analysis of γ -crystallin expression in rat eye (A) and mouse eye (B) tissue extracts.



γ -crystallin (P-18): sc-22415. Immunofluorescence staining of methanol-fixed Y79 cells showing cytoplasmic localization.

RESEARCH USE

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

MONOS
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Try γ -crystallin (B-5): sc-365256 or γ -crystallin (F-4): sc-514201, our highly recommended monoclonal alternatives to γ -crystallin (P-18).