

γ -crystallin (FL-175): sc-22746

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 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.

SOURCE

γ -crystallin (FL-175) is a rabbit polyclonal antibody raised against amino acids 1-175 representing full length γ B-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

γ -crystallin (FL-175) is recommended for detection of γ A, γ B, γ C, γ D, γ E and γ F-crystallin, 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 (FL-175) is also recommended for detection of γ A, γ B, γ C, γ D, γ E and γ F-crystallin, and to a lesser extent, γ S-crystallin in additional species, including porcine.

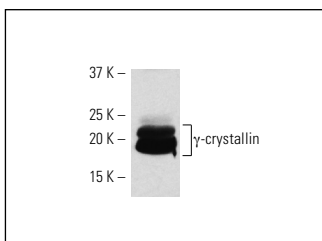
Molecular Weight of γ -crystallin: 20 kDa.

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

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



γ -crystallin (FL-175): sc-22746. Western blot analysis of γ -crystallin expression in rat eye tissue extract.

SELECT PRODUCT CITATIONS

1. 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.
2. Ren, S., et al. 2010. Physiological expression of lens α -, β -, and γ -crystallins in murine and human corneas. *Mol. Vis.* 16: 2745-2752.

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.



Try γ -crystallin (B-5): sc-365256 or γ -crystallin (F-4): sc-514201, our highly recommended monoclonal alternatives to γ -crystallin (FL-175).