SANTA CRUZ BIOTECHNOLOGY, INC.

γS-crystallin (A-3): sc-374265

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Crystallins are water soluble structural proteins found in the vertebrate eye. Mammalian crystallins are classified in three forms, designated α, β and γ. Crystallins, as the principal components of the lens, function to increase the refractive index of the eye during accommodation by forming high-molecular weight aggregates which maintain transparency. γS-crystallin (γ-crystallin S), also known as β-crystallin S, is a 178 amino acid protein that exists as a monomer which does not aggregate. γS-crystallin contains a two-domain β structure and belongs to the β/γ-crystallin gene family mapping to human chromosome 3. γS-crystallin has been linked to congenital cataract development, a disorder signified by increasing levels of lens opacity.

REFERENCES

1. den Dunnen, J.T., et al. 1985. Human lens γ-crystallin sequences are located in the p12-qter region of chromosome 2. Hum. Genet. 70: 217-221.
2. Zarina, S., et al. 1992. Primary structure of βS-crystallin from human lens. Biochem. J. 287: 375-381.
3. Smith, J.B., et al. 1995. The complete sequence of human lens γS-crystallin. Biochem. J. 307: 407-410.
4. Lampi, K.J., et al. 1997. Sequence analysis of βA3-, βB3-, and βA4-crytallins completes the identification of the major proteins in young human lens. J. Biol. Chem. 272: 2268-2275.
5. Wistow, G., et al. 2000. The human gene for γS-crystallin: alternative transcripts and expressed sequences from the first intron. Mol. Vis. 6: 79-84.

CHROMOSOMAL LOCATION

Genetic locus: CRYGS (human) mapping to 3q27.3; Crygs (mouse) mapping to 16 B1.

SOURCE

γS-crystallin (A-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 157-178 at the C-terminus of γS-crystallin of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

γS-crystallin (A-3) is available conjugated to agarose (sc-374265 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-374265 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374265 PE), fluorescein (sc-374265 FITC), Alexa Fluor® 488 (sc-374265 AF488), Alexa Fluor® 546 (sc-374265 AF546), Alexa Fluor® 594 (sc-374265 AF594) or Alexa Fluor® 647 (sc-374265 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374265 AF680) or Alexa Fluor® 790 (sc-374265 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-374265 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

γS-crystallin (A-3) is recommended for detection of γS-crystallin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

γS-crystallin (A-3) is also recommended for detection of γS-crystallin in additional species, including equine, canine and bovine.

Suitable for use as control antibody for γS-crystallin siRNA (h): sc-40464, γS-crystallin siRNA (m): sc-40465, γS-crystallin shRNA Plasmid (h): sc-40464-SH, γS-crystallin shRNA Plasmid (m): sc-40465-SH, γS-crystallin shRNA (h) Lentiviral Particles: sc-40464-V and γS-crystallin shRNA (m) Lentiviral Particles: sc-40465-V.

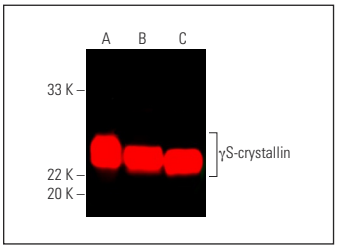
Molecular Weight of γS-crystallin: 21 kDa.

Positive Controls: human eye extract: sc-364223, rat eye extract: sc-364805 or mouse eye extract: sc-364241.

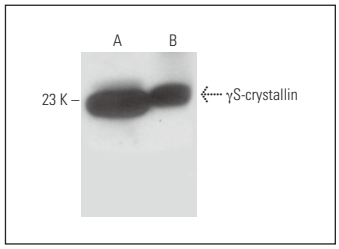
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



γS-crystallin (A-3): sc-374265. Near-Infrared western blot analysis of γS-crystallin expression in human eye (**A**), rat eye (**B**) and mouse eye (**C**) tissue extracts. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 790: sc-516181.



γS-crystallin (A-3): sc-374265. Western blot analysis of γS-crystallin expression in mouse eye (**A**) and human eye (**B**) tissue extracts.

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.