SANTA CRUZ BIOTECHNOLOGY, INC.

βB2-crystallin (B-12): sc-376006

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. 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.

CHROMOSOMAL LOCATION

Genetic locus: CRYBB2 (human) mapping to 22q11.23; Crybb2 (mouse) mapping to 5 F.

SOURCE

βB2-crystallin (B-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1-29 at the N-terminus of βB2-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.

βB2-crystallin (B-12) is available conjugated to agarose (sc-376006 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376006 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376006 PE), fluorescein (sc-376006 FITC), Alexa Fluor® 488 (sc-376006 AF488), Alexa Fluor® 546 (sc-376006 AF546), Alexa Fluor® 594 (sc-376006 AF594) or Alexa Fluor® 647 (sc-376006 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376006 AF680) or Alexa Fluor® 790 (sc-376006 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-376006 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

RESEARCH USE

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

APPLICATIONS

βB2-crystallin (B-12) is recommended for detection of βB2-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).

βB2-crystallin (B-12) is also recommended for detection of βB2-crystallin in additional species, including canine and bovine.

Suitable for use as control antibody for βB2-crystallin siRNA (h): sc-40444, βB2-crystallin siRNA (m): sc-40445, βB2-crystallin shRNA Plasmid (h): sc-40444-SH, βB2-crystallin shRNA Plasmid (m): sc-40445-SH, βB2-crystallin shRNA (h) Lentiviral Particles: sc-40444-V and βB2-crystallin shRNA (m) Lentiviral Particles: sc-40445-V.

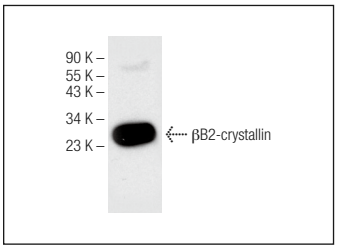
Molecular Weight of βB2-crystallin: 24 kDa.

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

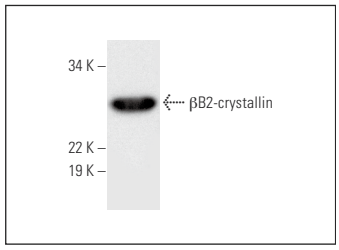
RECOMMENDED SUPPORT REAGENTS

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



βB2-crystallin (B-12): sc-376006. Western blot analysis of βB2-crystallin expression in rat eye tissue extract.



βB2-crystallin (B-12): sc-376006. Western blot analysis of βB2-crystallin expression in mouse eye tissue extract.

SELECT PRODUCT CITATIONS

1. García-Arroyo, R., et al. 2023. Exacerbated response to oxidative stress in the Retinitis Pigmentosa CerkIKD/KO mouse model triggers retinal degeneration pathways upon acute light stress. Redox Biol. 66: 102862.

STORAGE

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