

βB3-crystallin (G-3): sc-374374

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 β A1-, β A2-, β A3-, β A4-, β B1-, β B2- and β B3-crystallin. The β A1- and β A3-crystallin proteins are encoded by a single mRNA. They differ by only 17 amino acids, and β A1-crystallin is generated by use of an alternate translation initiation site.

REFERENCES

- Hope, J.N., et al. 1994. β A3/A1-crystallin association: role of the N-terminal arm. *Protein Eng.* 7: 445-451.
- Hejtmancik, J.F., et al. 1997. Association properties of β B2- and β A3-crystallin: ability to form dimers. *Protein Eng.* 10: 1347-1352.
- Werten, P.J., et al. 1999. The short 5' untranslated region of the β A3/A1-crystallin mRNA is responsible for leaky ribosomal scanning. *Mol. Biol. Rep.* 26: 201-205.
- Slingsby, C., et al. 1999. Structure of the crystallins. *Eye* 13: 395-402.
- Horwitz, J. 2003. α -crystallin. *Exp. Eye Res.* 76: 145-153.

CHROMOSOMAL LOCATION

Genetic locus: CRYBB3 (human) mapping to 22q11.23; Crybb3 (mouse) mapping to 5 F.

SOURCE

β B3-crystallin (G-3) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 99-137 within an internal region of β B3-crystallin of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

β B3-crystallin (G-3) is available conjugated to agarose (sc-374374 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374374 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374374 PE), fluorescein (sc-374374 FITC), Alexa Fluor[®] 488 (sc-374374 AF488), Alexa Fluor[®] 546 (sc-374374 AF546), Alexa Fluor[®] 594 (sc-374374 AF594) or Alexa Fluor[®] 647 (sc-374374 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-374374 AF680) or Alexa Fluor[®] 790 (sc-374374 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-374374 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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APPLICATIONS

β B3-crystallin (G-3) is recommended for detection of β B3-crystallin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for β B3-crystallin siRNA (h): sc-40446, β B3-crystallin siRNA (m): sc-40447, β B3-crystallin shRNA Plasmid (h): sc-40446-SH, β B3-crystallin shRNA Plasmid (m): sc-40447-SH, β B3-crystallin shRNA (h) Lentiviral Particles: sc-40446-V and β B3-crystallin shRNA (m) Lentiviral Particles: sc-40447-V.

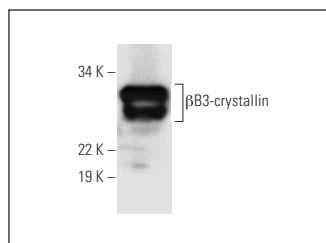
Molecular Weight of β B3-crystallin: 28 kDa.

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

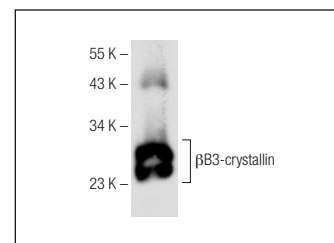
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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



β B3-crystallin (G-3): sc-374374. Western blot analysis of β B3-crystallin expression in rat eye tissue extract.



β B3-crystallin (G-3): sc-374374. Western blot analysis of β B3-crystallin expression in mouse eye tissue extract.

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 for detailed protocols and support products.