

# $\gamma$ B-crystallin (D-5): sc-377056

## BACKGROUND

Crystallins, the major proteins of the vertebrate eye lens, are responsible for maintaining the transparency and the refractive index of the lens. Crystallins are divided into  $\alpha$ ,  $\beta$ , and  $\gamma$  families, all of which usually contain seven distinctive protein regions, including four homologous motifs, one connecting peptide and N- and C-terminal extensions. The  $\gamma$ -crystallin family is comprised of seven closely related proteins designated  $\gamma$ A-,  $\gamma$ B-,  $\gamma$ C-,  $\gamma$ D-,  $\gamma$ E-,  $\gamma$ F- and  $\gamma$ G-crystallin.  $\gamma$ B-crystallin, also known as CRYGB or CRYG2, is a 175 amino acid member of the  $\gamma$ -crystallin family. Functioning as a monomer that has a two-domain  $\beta$  fold,  $\gamma$ B-crystallin, like other members of its family, plays a key role in ensuring the proper structure of the vertebrate eye lens. Defects in the gene encoding  $\gamma$ B-crystallin are associated with the formation of cataracts which are characterized by a clouding of the crystalline lens of the eye.

## REFERENCES

1. Brakenhoff, R.H., et al. 1990. Human  $\gamma$ -crystallin genes. A gene family on its way to extinction. *J. Mol. Biol.* 216: 519-532.
2. Hearne, C.M., et al. 1991. Trinucleotide repeat polymorphism at the CRYG1 locus. *Nucleic Acids Res.* 19: 5450.
3. Rogaev, E.I., et al. 1996. Linkage of polymorphic congenital cataract to the  $\gamma$ -crystallin gene locus on human chromosome 2q33-35. *Hum. Mol. Genet.* 5: 699-703.
4. Graw, J. 1997. The crystallins: genes, proteins and diseases. *Biol. Chem.* 378: 1331-1348.

## CHROMOSOMAL LOCATION

Genetic locus: CRYGB (human) mapping to 2q34; Crygb (mouse) mapping to 1 C2.

## SOURCE

$\gamma$ B-crystallin (D-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 71-107 within an internal region of  $\gamma$ B-crystallin of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

$\gamma$ B-crystallin (D-5) is available conjugated to agarose (sc-377056 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377056 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377056 PE), fluorescein (sc-377056 FITC), Alexa Fluor® 488 (sc-377056 AF488), Alexa Fluor® 546 (sc-377056 AF546), Alexa Fluor® 594 (sc-377056 AF594) or Alexa Fluor® 647 (sc-377056 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377056 AF680) or Alexa Fluor® 790 (sc-377056 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-377056 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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## APPLICATIONS

$\gamma$ B-crystallin (D-5) is recommended for detection of  $\gamma$ B-crystallin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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  $\gamma$ B-crystallin siRNA (h): sc-40452,  $\gamma$ B-crystallin siRNA (m): sc-40453,  $\gamma$ B-crystallin shRNA Plasmid (h): sc-40452-SH,  $\gamma$ B-crystallin shRNA Plasmid (m): sc-40453-SH,  $\gamma$ B-crystallin shRNA (h) Lentiviral Particles: sc-40452-V and  $\gamma$ B-crystallin shRNA (m) Lentiviral Particles: sc-40453-V.

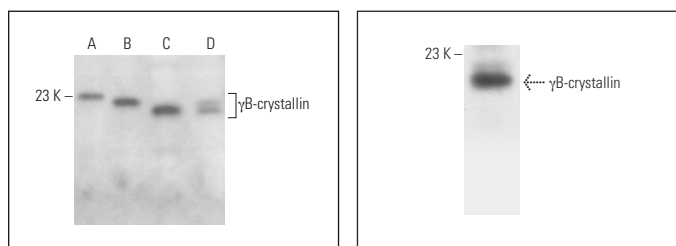
Molecular Weight of  $\gamma$ B-crystallin: 21 kDa.

Positive Controls: HL-60 whole cell lysate: sc-2209, EOC 20 whole cell lysate: sc-364187 or human eye extract: sc-364223.

## RECOMMENDED SUPPORT REAGENTS

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



$\gamma$ B-crystallin (D-5): sc-377056. Western blot analysis of  $\gamma$ B-crystallin expression in EOC 20 (A), ARPE-19 (B), HL-60 (C) and Y79 (D) whole cell lysates.

$\gamma$ B-crystallin (D-5): sc-377056. Western blot analysis of  $\gamma$ B-crystallin expression in human 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](http://www.scbt.com) for detailed protocols and support products.