

# βA3/A1-crystallin (C-20): sc-22398

## 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  $\alpha$ ,  $\beta$ , and  $\gamma$  families, and the  $\beta$  and  $\gamma$ -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.  $\beta$ -crystallins constitute the major lens structural proteins, and they associate into dimers, tetramers, and higher order aggregates. The  $\beta$ -crystallin subfamily is composed of several gene products, including  $\beta$ A1,  $\beta$ A2,  $\beta$ A3,  $\beta$ A4,  $\beta$ B1,  $\beta$ B2, and  $\beta$ B3-crystallin. The  $\beta$ A1 and  $\beta$ A3-crystallin proteins are encoded by a single mRNA. They differ by only 17 amino acids, and  $\beta$ A1-crystallin is generated by use of an alternate translation initiation site. The genes for  $\beta$ A4,  $\beta$ B1,  $\beta$ B2, and  $\beta$ B3-crystallin are clustered on human chromosome 22q11, while the genes for  $\beta$ A3/A1 and  $\beta$ A2-crystallin map to human chromosomes 17q11.2 and 2q34, respectively.

## REFERENCES

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- Gangalum, R.K., et al. 2004. Small heat shock protein  $\alpha$ B-crystallin is part of cell cycle-dependent Golgi reorganization. *J. Biol. Chem.* 279: 43374-43377.
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## CHROMOSOMAL LOCATION

Genetic locus: CRYBA1 (human) mapping to 17q11.2; Cryba1 (mouse) mapping to 11 B5.

## SOURCE

$\beta$ A3/A1-crystallin (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of  $\beta$ A3/A1-crystallin of human origin.

## RESEARCH USE

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

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-22398 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

$\beta$ A3/A1-crystallin (C-20) is recommended for detection of  $\beta$ A3/A1-crystallin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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).

$\beta$ A3/A1-crystallin (C-20) is also recommended for detection of  $\beta$ A3/A1-crystallin in additional species, including equine, canine, bovine and porcine.

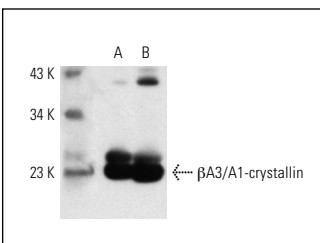
Molecular Weight of  $\beta$ A3/A1-crystallin: 25 kDa.

Positive Controls: mouse eye extract: sc-364241 or rat eye extract: sc-249410.

## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

## DATA



$\beta$ A3/A1-crystallin (C-20): sc-22398. Western blot analysis of  $\beta$ A3/A1-crystallin expression in mouse eye (A) and rat 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.