

α B-crystallin (K-20): sc-22391

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 compose a superfamily. Crystallins usually contain seven distinct protein regions, including four homologous motifs, a connecting peptide, and N- and C-terminal extensions. α -crystallins consist of three gene products, α A-, α B- and α C-crystallin, which are members of the small heat shock protein family (HSP 20). α -crystallins act as molecular chaperones by holding denatured proteins in large soluble aggregates. However, unlike other molecular chaperones, α -crystallins do not renature these proteins. Expression of α A-crystallin is restricted to the lens and defects of this gene cause the development of autosomal dominant congenital cataracts (ADCC). The human α B-crystallin gene product is expressed in many tissues, including lens, heart and skeletal muscle. Elevated expression of α B-crystallin is associated with many neurological diseases, and a missense mutation in this gene has co-segregated in a family with a Desmin-related myopathy.

CHROMOSOMAL LOCATION

Genetic locus: CRYAB (human) mapping to 11q23.1; Cryab (mouse) mapping to 9 A5.3.

SOURCE

α B-crystallin (K-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of α B-crystallin of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-22391 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

α B-crystallin (K-20) is recommended for detection of α B-crystallin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

α B-crystallin (K-20) is also recommended for detection of α B-crystallin in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for α B-crystallin siRNA (h): sc-40432, α B-crystallin siRNA (m): sc-40433, α B-crystallin shRNA Plasmid (h): sc-40432-SH, α B-crystallin shRNA Plasmid (m): sc-40433-SH, α B-crystallin shRNA (h) Lentiviral Particles: sc-40432-V and α B-crystallin shRNA (m) Lentiviral Particles: sc-40433-V.

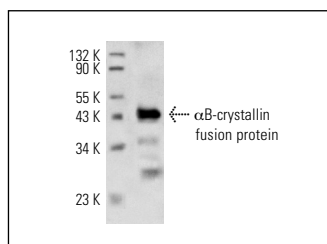
Molecular Weight (predicted) of α B-crystallin: 20 kDa.

Molecular Weight (observed) of α B-crystallin: 22-30 kDa.

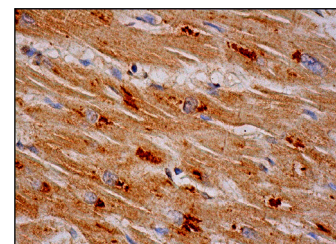
RECOMMENDED SECONDARY REAGENTS

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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



α B-crystallin (K-20): sc-22391. Western blot analysis of human recombinant α B-crystallin fusion protein.



α B-crystallin (K-20): sc-22391. Immunoperoxidase staining of formalin fixed, paraffin-embedded human heart muscle tissue showing cytoplasmic staining of myocytes.

SELECT PRODUCT CITATIONS

- Ren, S., et al. 2010. Physiological expression of lens α -, β -, and γ -crystallins in murine and human corneas. *Mol. Vis.* 16: 2745-2752.
- Clewes, O., et al. 2011. Human epidermal neural crest stem cells (hEPI-NCSC)—characterization and directed differentiation into osteocytes and melanocytes. *Stem Cell Rev.* 7: 799-814.
- Zhang, G., et al. 2011. Chaperone proteins and winter survival by a freeze tolerant insect. *J. Insect Physiol.* 57: 1115-1122.

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.



Try **α B-crystallin (F-10): sc-137129** or **α B-crystallin (C-5): sc-398079**, our highly recommended monoclonal alternatives to α B-crystallin (K-20).