SANTA CRUZ BIOTECHNOLOGY, INC.

αB-crystallin (A-4): sc-365088

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 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, αA-, αB- and αC-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 αA-crystallin is restricted to the lens and defects of this gene cause the development of autosomal dominant congenital cataracts (ADCC). The human αB-crystallin gene product is expressed in many tissues, including lens, heart and skeletal muscle. Elevated expression of αB-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

αB-crystallin (A-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 115-147 within an internal region of αB-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.

Blocking peptide available for competition studies, sc-365088 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

αB-crystallin (A-4) is recommended for detection of αB-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).

αB-crystallin (A-4) is also recommended for detection of αB-crystallin in additional species, including porcine.

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

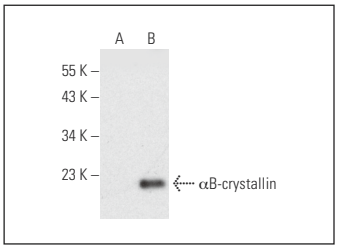
Molecular Weight (observed) of αB-crystallin: 22-30 kDa.

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

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



αB-crystallin (A-4): sc-365088. Western blot analysis of αB-crystallin expression in non-transfected: sc-117752 (**A**) and mouse αB-crystallin transfected: sc-118149 (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Sosunov, A.A., et al. 2013. Phenotypic conversions of "protoplasmic" to "reactive" astrocytes in Alexander disease. J. Neurosci. 33: 7439-7450.

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.