\( \alpha A \)-crystallin (B-2): sc-28306

**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 compose a superfamily. Crystallins usually contain seven distinct protein regions, including four homologous motifs, a connecting peptide, and N- and C-terminal extensions. \( \alpha \)-crystallins consist of three gene products, \( \alpha A \), \( \alpha B \) and \( \alpha C \)-crystallin, which are members of the small heat shock protein family (HSP 20). They are induced by heat shock, and act as molecular chaperones by holding denatured proteins in large soluble aggregates. However, unlike other molecular chaperones, \( \alpha \)-crystallins do not renature these proteins. Expression of \( \alpha A \)-crystallin is restricted to the lens. Defects in this gene cause autosomal dominant congenital cataracts (ADCC). The human \( \alpha A \)-crystallin gene product is expressed in many tissues, including lens, heart, and skeletal muscle. Elevated expression of \( \alpha B \)-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: CRYAA (human) mapping to 21q22.3; Cryaa (mouse) mapping to 17 B1.

**SOURCE**

\( \alpha A \)-crystallin (B-2) is a mouse monoclonal antibody raised against amino acids 1-173 representing full length \( \alpha A \)-crystallin of human origin.

**PRODUCT**

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

**STORAGE**

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

**APPLICATIONS**

\( \alpha A \)-crystallin (B-2) is recommended for detection of \( \alpha A \)-crystallin of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:10,000), 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); may cross-react with \( \alpha B \)-crystallin.

- Suitable for use as control antibody for \( \alpha A \)-crystallin siRNA (h): sc-40430, \( \alpha A \)-crystallin siRNA (m): sc-40431, \( \alpha A \)-crystallin shRNA Plasmid (h): sc-40430-SH, \( \alpha A \)-crystallin shRNA Plasmid (m): sc-40431-SH, \( \alpha A \)-crystallin shRNA (h) Lentiviral Particles: sc-40430-V and \( \alpha A \)-crystallin shRNA (m) Lentiviral Particles: sc-40431-V.
- Molecular Weight of \( \alpha A \)-crystallin: 20 kDa.
- Positive Controls: human eye extract: sc-127880, mouse eye extract: sc-364241 or rat eye extract: sc-364805.

**RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended:


**DATA**

![Western Blotting Analysis](image1)

**SELECT PRODUCT CITATIONS**


**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.