

## Recombinant Human CRYAB, His-tagged

**Cat. No.** CRYAB-31725TH    **Lot. No.** (See product label)

### SPECIFICATION

**Product Overview**      Recombinant full length Human Alpha B Crystallin with an N terminal His tag;  
Observed MWt 26 kDa.

**Species**                      Human

**Source**                        E.coli

**ProteinLength**              175 amino acids

#### Description

Crystallins are separated into two classes: taxon-specific, or enzyme, and ubiquitous. The latter class constitutes the major proteins of vertebrate eye lens and maintains the transparency and refractive index of the lens. Since lens central fiber cells lose their nuclei during development, these crystallins are made and then retained throughout life, making them extremely stable proteins. Mammalian lens crystallins are divided into alpha, beta, and gamma families; beta and gamma crystallins are also considered as a superfamily. Alpha and beta families are further divided into acidic and basic groups. Seven protein regions exist in crystallins: four homologous motifs, a connecting peptide, and N- and C-terminal extensions. Alpha crystallins are composed of two gene products: alpha-A and alpha-B, for acidic and basic, respectively. Alpha crystallins can be induced by heat shock and are members of the small heat shock protein (sHSP also known as the HSP20) family. They act as molecular chaperones although they do not renature proteins and release them in the fashion of a true chaperone; instead they hold them in large soluble aggregates. Post-translational modifications decrease the ability to chaperone. These heterogeneous

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aggregates consist of 30-40 subunits; the alpha-A and alpha-B subunits have a 3:1 ratio, respectively. Two additional functions of alpha crystallins are an autokinase activity and participation in the intracellular architecture. Alpha-A and alpha-B gene products are differentially expressed; alpha-A is preferentially restricted to the lens and alpha-B is expressed widely in many tissues and organs. Elevated expression of alpha-B crystallin occurs in many neurological diseases; a missense mutation cosegregated in a family with a desmin-related myopathy.

<b>Conjugation</b>	HIS
<b>Molecular Weight</b>	26.000kDa inclusive of tags
<b>Form</b>	Liquid
<b>Purity</b>	>95% by SDS-PAGE
<b>Storage buffer</b>	pH: 7.50 Constituents: 0.61% Tris, 0.47% Sodium chloride, 0.03% EDTA
<b>Storage</b>	Shipped on dry ice. Upon delivery aliquot and store at -80oC. Avoid freeze / thaw cycles.

## GENE INFORMATION

<b>Gene Name</b>	CRYAB crystallin, alpha B [ Homo sapiens ]
<b>Official Symbol</b>	CRYAB
<b>Synonyms</b>	CRYAB; crystallin, alpha B; CRYA2; alpha-crystallin B chain; HSPB5;
<b>Gene ID</b>	1410

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<b>mRNA Refseq</b>	NM_001885
<b>Protein Refseq</b>	NP_001876
<b>MIM</b>	123590
<b>Uniprot ID</b>	P02511
<b>Chromosome Location</b>	11q22.3-q23.1
<b>Pathway</b>	Protein processing in endoplasmic reticulum, organism-specific biosystem; Protein processing in endoplasmic reticulum, conserved biosystem;
<b>Function</b>	protein binding; protein homodimerization activity; structural constituent of eye lens; unfolded protein binding;

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