Recombinant Human CRYAA, His-tagged

Cat. No. CRYAA-26991TH **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant full length Human alpha A Crystallin with N terminal His tag, MWt 20kDa.
Species	Human
Source	E.coli
ProteinLength	173 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

Tel: 1-631-559-9269 1-516-512-3133
Email: info@creative-biomart.com Fax: 1-631-938-8127
45-1 Ramsey Road, Shirley, NY 11967, USA

	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. Defects in this gene cause autosomal dominant congenital cataract (ADCC).
Conjugation	HIS
Molecular Weight	20.000kDa inclusive of tags
Form	Liquid
Purity	>95% by SDS-PAGE
Storage buffer	pH: 7.50Constituents:0.61% Tris, 0.08% DTT, 0.29% Sodium chloride
Storage	Shipped on dry ice. Upon delivery aliquot and store at -80oC. Avoid freeze / thaw cycles.
Sequence Similarities	Belongs to the small heat shock protein (HSP20) family.

GENE INFORMATION

Gene Name	CRYAA crystallin, alpha A [Homo sapiens]
Official Symbol	CRYAA
Synonyms	CRYAA; crystallin, alpha A; CRYA1; alpha-crystallin A chain; HSPB4;

Tel: 1-631-559-9269 1-516-512-3133
Email: info@creative-biomart.com Fax: 1-631-938-8127
45-1 Ramsey Road, Shirley, NY 11967, USA

Gene ID	1409
mRNA Refseq	NM_000394
Protein Refseq	NP_000385
Uniprot ID	P02489
Chromosome Location	21q22.3
Pathway	Protein processing in endoplasmic reticulum, organism-specific biosystem; Protein processing in endoplasmic reticulum, conserved biosystem;
Function	protein binding; structural constituent of eye lens; unfolded protein binding; unfolded protein binding;

Tel: 1-631-559-9269 1-516-512-3133
Email: info@creative-biomart.com Fax: 1-631-938-8127
45-1 Ramsey Road, Shirley, NY 11967, USA