

Product datasheet for RC216946

alpha A Crystallin (CRYAA) (NM_000394) Human Tagged ORF Clone

Product data:

Product Type: Expression Plasmids
Product Name: alpha A Crystallin (CRYAA) (NM_000394) Human Tagged ORF Clone
Tag: Myc-DDK
Symbol: CRYAA
Synonyms: CRYA1; CTRCT9; HSPB4
Vector: pCMV6-Entry (PS100001)
E. coli Selection: Kanamycin (25 ug/mL)
Cell Selection: Neomycin
ORF Nucleotide Sequence: >RC216946 ORF sequence
Red=Cloning site Blue=ORF Green=Tags(s)

TTTTGTAATACGACTCACTATAGGGCGCCGGAATTCGTCGACTGGATCCGGTACCGAGGAGATCTGCC
GCC**GCGATCGCC**

ATGGATGTGACCATCCAGCACCCCTGGTTCAAGCGCACCTGGGGCCCTTCTACCCAGCCGGCTGTTCC
ACCAGTTTTTCGGCGAGGGCCTTTTTGAGTATGACCTGCTGCCCTTCTGTCTCCACCATCAGCCCTA
CTACCGCCAGTCCCTCTCCGCACCGTGTGGACTCCGGCATCTCTGAGTTTCGATCCGACCGGACAAG
TTCGTATCTTCCGATGTGAAGCACTTCTCCCGGAGGACCTACCGTGAAGGTGCAGGACGACTTTG
TGGAGATCCACGAAAGCACAACGAGCGCCAGGACGACCACGGCTACATTTCCCGTGAGTTCCACCGCCG
CTACCGCTGCCGTCCAACGTGGACCACTCGGCCCTCTTTGCTCCCTGTCTGCCGATGGCATGCTGACC
TTCTGTGGCCCAAGATCCAGACTGGCCTGGATGCCACCCACGCCGAGGAGCCATCCCCGTGTCGCGGG
AGGAGAAGCCACCTCGGCTCCCTCGTCC

ACGCGTACGCGGCGGCTCGAGCAGAACTCATCTCAGAAGAGGATCTGGCAGCAAATGATATCCTGGATT
ACAAGGATGACGACGATAAGGTTTAA

Protein Sequence: >RC216946 protein sequence
Red=Cloning site Green=Tags(s)

MDVTIQHPWFKRTLGPYFYSRLFDQFFGEGLFEYDLLPFLSSTISPYRQSLFRTVLDSGISEVRSRDK
FVIFLDVKHFSPEDLTVKVQDDFVEIHGKHNERQDDHGYISREFHRRYRLPSNVDQSALSCSLADGMLT
FCGPKIQTGLDATHAERAIPVSREEKPTSAPSS

TRTRPLEQKLISEEDLAANDILDYKDDDDKV

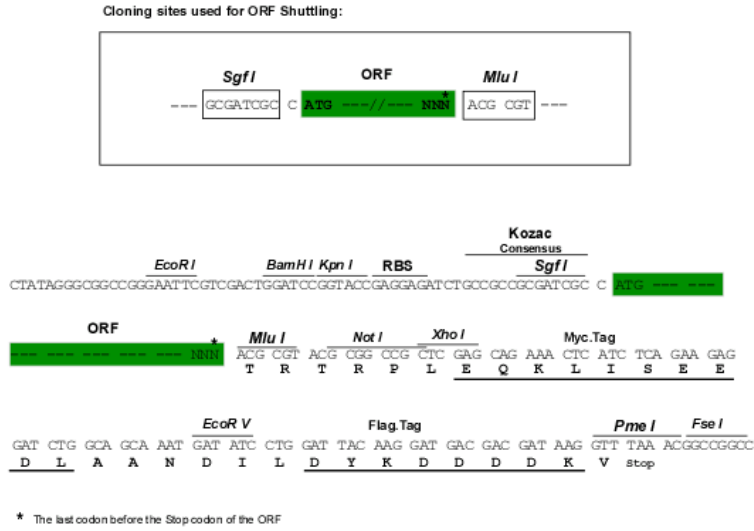
Chromatograms: https://cdn.origene.com/chromatograms/mk6462_b09.zip



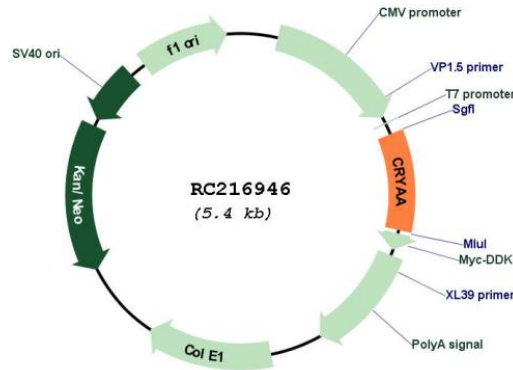
[View online >](#)

Restriction Sites: SgfI-MluI

Cloning Scheme:



Plasmid Map:



ACCN: NM_000394

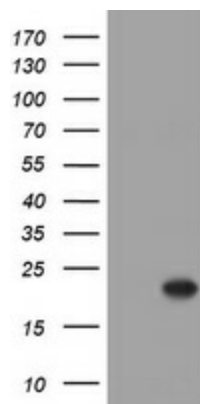
ORF Size: 519 bp

OTI Disclaimer: The molecular sequence of this clone aligns with the gene accession number as a point of reference only. However, individual transcript sequences of the same gene can differ through naturally occurring variations (e.g. polymorphisms), each with its own valid existence. This clone is substantially in agreement with the reference, but a complete review of all prevailing variants is recommended prior to use. [More info](#)

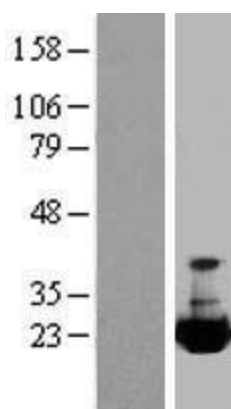
OTI Annotation: This clone was engineered to express the complete ORF with an expression tag. Expression varies depending on the nature of the gene.

| | |
|-------------------------------|--|
| Components: | The ORF clone is ion-exchange column purified and shipped in a 2D barcoded Matrix tube containing 10ug of transfection-ready, dried plasmid DNA (reconstitute with 100 ul of water). |
| Reconstitution Method: | <ol style="list-style-type: none">1. Centrifuge at 5,000xg for 5min.2. Carefully open the tube and add 100ul of sterile water to dissolve the DNA.3. Close the tube and incubate for 10 minutes at room temperature.4. Briefly vortex the tube and then do a quick spin (less than 5000xg) to concentrate the liquid at the bottom.5. Store the suspended plasmid at -20°C. The DNA is stable for at least one year from date of shipping when stored at -20°C. |
| RefSeq: | <u>NM_000394.4</u> |
| RefSeq Size: | 1162 bp |
| RefSeq ORF: | 522 bp |
| Locus ID: | 1409 |
| UniProt ID: | <u>P02489</u> |
| Cytogenetics: | 21q22.3 |
| MW: | 19.9 kDa |
| Gene Summary: | <p>Mammalian lens crystallins are divided into alpha, beta, and gamma families. 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 (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 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. The encoded protein has been identified as a moonlighting protein based on its ability to perform mechanistically distinct functions. 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). [provided by RefSeq, Jan 2014]</p> |

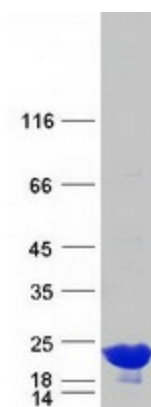
Product images:



HEK293T cells were transfected with the pCMV6-ENTRY control (Cat# [PS100001], Left lane) or pCMV6-ENTRY CRYAA (Cat# RC216946, Right lane) cDNA for 48 hrs and lysed. Equivalent amounts of cell lysates (5 ug per lane) were separated by SDS-PAGE and immunoblotted with anti-CRYAA (Cat# [TA505453]). Positive lysates [LY424743] (100ug) and [LC424743] (20ug) can be purchased separately from OriGene.



Western blot validation of overexpression lysate (Cat# [LY424743]) using anti-DDK antibody (Cat# [TA50011-100]). Left: Cell lysates from untransfected HEK293T cells; Right: Cell lysates from HEK293T cells transfected with RC216946 using transfection reagent MegaTran 2.0 (Cat# [TT210002]).



Coomassie blue staining of purified CRYAA protein (Cat# [TP316946]). The protein was produced from HEK293T cells transfected with CRYAA cDNA clone (Cat# RC216946) using MegaTran 2.0 (Cat# [TT210002]).