

## **Product datasheet for KN216946BN**

# OriGene Technologies, Inc.

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## alpha A Crystallin (CRYAA) Human Gene Knockout Kit (CRISPR)

**Product data:** 

**Product Type:** Knockout Kits (CRISPR)

**Format:** 2 gRNA vectors, 1 mBFP-Neo donor, 1 scramble control

**Donor DNA:** mBFP-Neo

Symbol: alpha A Crystallin

Locus ID: 1409

**Components: KN216946G1**, alpha A Crystallin gRNA vector 1 in pCas-Guide CRISPR vector (GE100002)

**KN216946G2**, alpha A Crystallin gRNA vector 2 in pCas-Guide CRISPR vector (GE100002) **KN216946BND**, donor DNA containing left and right homologous arms and mBFP-Neo

functional cassette.

GE100003, scramble sequence in pCas-Guide vector

**Disclaimer:** These products are manufactured and supplied by OriGene under license from ERS. The kit is

designed based on the best knowledge of CRISPR technology. The system has been functionally validated for knocking-in the cassette downstream the native promoter. The efficiency of the knock-out varies due to the nature of the biology and the complexity of the

experimental process.

RefSeq: <u>NM 000394</u>, <u>NM 001363766</u>

UniProt ID: <u>P02489</u>

**Synonyms:** CRYA1; CTRCT9; HSPB4

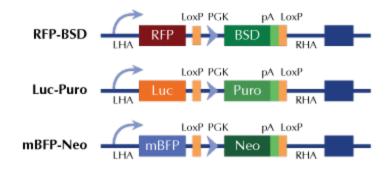


#### **Summary:**

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]

### **Product images:**

#### Donor Vector Edited Chromosome



RFP, Luc, and mBFP will be under native gene promoter