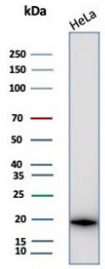
CRYAB Antibody / Cellular Stress Response Marker [clone CRYAB/4659] (V4195)

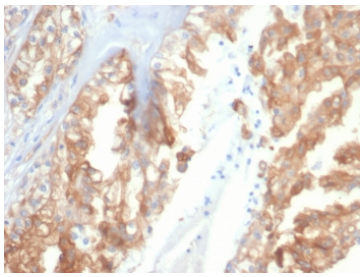
Catalog No.	Formulation	Size
V4195-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V4195-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V4195SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

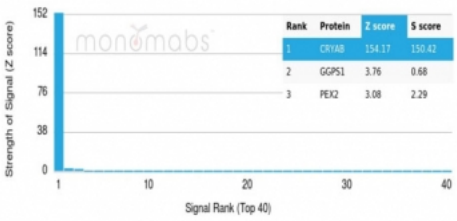
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2, kappa
Clone Name	CRYAB/4659
Purity	Protein A/G affinity
UniProt	P02511
Localization	Cytoplasm, Nucleus
Applications	Western Blot : 1-2ug/ml Immunohistochemistry (FFPE) : 1-2ug/ml for 30 minutes at RT
Limitations	This CRYAB Antibody / Cellular Stress Response Marker is available for research use only.



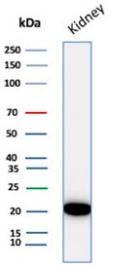
CRYAB Antibody Stress Protein WB. Western blot analysis of Alpha B crystallin / CRYAB in human HeLa cell lysate using mouse monoclonal CRYAB antibody, clone CRYAB/4659. A distinct band is detected at approximately 20 kDa, consistent with the predicted molecular weight of CRYAB, supporting detection of this stress-inducible small heat shock protein involved in cellular protection and protein stabilization.



CRYAB Antibody Tumor Stress IHC. Immunohistochemistry of Alpha B crystallin / CRYAB in FFPE human renal cell carcinoma tissue using mouse monoclonal CRYAB antibody, clone CRYAB/4659. HRP-DAB brown staining highlights cytoplasmic labeling of malignant epithelial cells, with variable intensity consistent with stress-associated expression in tumor tissue, while surrounding stromal elements show reduced staining and nuclei are counterstained blue. Heat induced epitope retrieval was performed by boiling tissue sections in pH 9 10 mM Tris with 1 mM EDTA for 20 min followed by cooling prior to staining.



CRYAB Antibody Stress Response Microarray. Protein microarray analysis of Alpha B crystallin / CRYAB using mouse monoclonal CRYAB antibody, clone CRYAB/4659, across a HuProt(TM) array containing more than 19,000 full-length human proteins demonstrates highly selective binding to CRYAB, with minimal reactivity toward non-target proteins. The signal profile shows strong enrichment for CRYAB relative to other proteins on the array, supporting high specificity in a stress response research context. Z-score represents the strength of antibody binding signal expressed as standard deviations above the mean array signal, while S-score reflects the separation between the top-ranked target and the next highest signal, indicating relative target specificity and confirming selective recognition of CRYAB in a proteome-wide assay.



CRYAB Antibody Renal Tissue WB. Western blot analysis of Alpha B crystallin / CRYAB in human kidney tissue lysate using mouse monoclonal CRYAB antibody, clone CRYAB/4659. A band is detected at approximately 20 kDa, consistent with the predicted molecular weight of CRYAB, supporting detection of this small heat shock protein in renal tissue under physiological conditions.

Description

Alpha B crystallin (CRYAB), also known as heat shock protein beta-5 (HSPB5), is a stress-inducible molecular chaperone that protects cells from damage caused by environmental and physiological stress. CRYAB Antibody / Cellular Stress Response Marker (clone CRYAB/4659) is optimized for studies examining cellular responses to stress, including heat shock, oxidative stress, and protein misfolding. CRYAB antibody, also referred to as Alpha B crystallin antibody in the literature, is widely used in investigations of cellular protection mechanisms and stress-adaptive pathways.

CRYAB expression is upregulated in response to a wide range of stress conditions, where it acts to stabilize proteins and prevent aggregation. This function is particularly important in cells exposed to fluctuating environmental conditions or metabolic demand. By binding partially unfolded proteins, CRYAB helps maintain protein homeostasis and supports cell survival under stress.

In addition to its chaperone function, CRYAB plays a role in modulating apoptosis and cell survival pathways. It has been shown to interact with key signaling molecules involved in stress responses, helping to suppress apoptotic signaling and promote cellular resilience. These properties make CRYAB an important factor in maintaining cell viability during injury or disease.

CRYAB is expressed in multiple tissue types, including muscle, neural, and epithelial tissues, where stress-related signaling is critical. In immunohistochemistry, it is typically observed as cytoplasmic staining that can increase in intensity under stress conditions, reflecting its inducible nature.

Western blot analysis of CRYAB reveals a band at approximately 20 kDa, consistent with its predicted molecular weight. This supports its detection in biochemical assays aimed at evaluating stress-related protein expression.

Like the anchor clone, this antibody has been validated using protein microarray analysis, demonstrating selective binding to CRYAB and supporting its specificity in complex biological samples. The mouse monoclonal clone CRYAB/4659 antibody provides reliable detection of CRYAB in research applications focused on stress response, protein stability, and cellular survival mechanisms.

For a microarray-validated reference CRYAB antibody with confirmed specificity, see clone CRYAB/4657.

Application Notes

Optimal dilution of the CRYAB Antibody / Cellular Stress Response Marker should be determined by the researcher.

Immunogen

Recombinant human full-length CRYAB protein was used as the immunogen for the CRYAB antibody.

Storage

Aliquot the CRYAB antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.

Alternate Names

CRYAB antibody, Alpha B crystallin antibody, HSPB5 antibody, Heat shock protein beta 5 antibody, Stress response protein antibody