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CRYGD Antibody (monoclonal) (M03)

Mouse monoclonal antibody raised against a partial recombinant CRYGD.
Catalog # AT1644a

Product Information

Application	WB, E
Primary Accession	P07320
Other Accession	NM_006891
Reactivity	Human
Host	mouse
Clonality	monoclonal
Isotype	IgG1 Kappa
Clone Names	4.0E+12
Calculated MW	20738

Additional Information

Gene ID	1421
Other Names	Gamma-crystallin D, Gamma-D-crystallin, Gamma-crystallin 4, CRYGD, CRYG4
Target/Specificity	CRYGD (NP_008822, 75 a.a. ~ 174 a.a) partial recombinant protein with GST tag. MW of the GST tag alone is 26 KDa.
Dilution	WB~~1:500~1000 E~~N/A
Format	Clear, colorless solution in phosphate buffered saline, pH 7.2 .
Storage	Store at -20°C or lower. Aliquot to avoid repeated freezing and thawing.
Precautions	CRYGD Antibody (monoclonal) (M03) is for research use only and not for use in diagnostic or therapeutic procedures.

Background

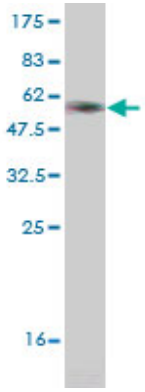
Crystallins are separated into two classes: taxon-specific, or enzyme, and ubiquitous. The latter class constitutes the major proteins of vertebrate eye lens and maintains the transparency and refractive index of the lens. Since lens central fiber cells lose their nuclei during development, these crystallins 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. Gamma-crystallins are a homogeneous group of highly symmetrical, monomeric proteins typically lacking connecting peptides and terminal extensions. They are differentially regulated after early development. Four gamma-crystallin genes (gamma-A through gamma-D) and three pseudogenes (gamma-E, gamma-F, gamma-G) are tandemly organized in a genomic segment as a gene cluster. Whether due to aging or

mutations in specific genes, gamma-crystallins have been involved in cataract formation.

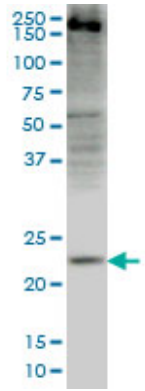
References

Partially folded aggregation intermediates of human gammaD-, gammaC-, and gammaS-crystallin are recognized and bound by human alphaB-crystallin chaperone. Acosta-Sampson L, et al. J Mol Biol, 2010 Aug 6. PMID 20621668.Increase in surface hydrophobicity of the cataract-associated P23T mutant of human gammaD-crystallin is responsible for its dramatically lower, retrograde solubility. Pande A, et al. Biochemistry, 2010 Jul 27. PMID 20553008.A novel human CRYGD mutation in a juvenile autosomal dominant cataract. Roshan M, et al. Mol Vis, 2010 May 22. PMID 20508808.beta-Strand interactions at the domain interface critical for the stability of human lens gammaD-crystallin. Das P, et al. Protein Sci, 2010 Jan. PMID 19937657.Hydrophobic core mutations associated with cataract development in mice destabilize human gammaD-crystallin. Moreau KL, et al. J Biol Chem, 2009 Nov 27. PMID 19758984.

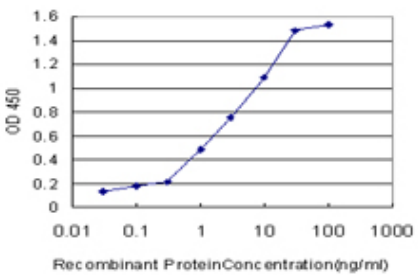
Images



Antibody Reactive Against Recombinant Protein.Western Blot detection against Immunogen (36.74 KDa) .



CRYGD monoclonal antibody (M03), clone 4E12 Western Blot analysis of CRYGD expression in HepG2 ((Cat # AT1644a)



Detection limit for recombinant GST tagged CRYGD is approximately 0.03ng/ml as a capture antibody.