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KEAP1 Antibody

Mouse Monoclonal Antibody (Mab)
Catalog # AM1968b

Product Information

Application	WB, E
Primary Accession	Q14145
Other Accession	Q684M4, NP_036421.2, NP_987096.1
Reactivity	Human
Predicted	Pig, Mouse, Rat, Bovine, Canine, Rabbit, Chicken
Host	Mouse
Clonality	Monoclonal
Isotype	IgM,k
Clone Names	297CT6.1.6
Calculated MW	69666
Antigen Region	422-449

Additional Information

Gene ID	9817
Other Names	Kelch-like ECH-associated protein 1, Cytosolic inhibitor of Nrf2, INrf2, Kelch-like protein 19, KEAP1, INRF2, KIAA0132, KLHL19
Target/Specificity	This KEAP1 antibody is generated from mice immunized with a KLH conjugated synthetic peptide between 422-449 amino acids from human KEAP1.
Dilution	WB~~1:500~1:1000 E~~Use at an assay dependent concentration.
Format	Purified monoclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Euglobin precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	KEAP1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	KEAP1 {ECO:0000303|PubMed:14585973, ECO:0000312|HGNC:HGNC:23177}
Function	Substrate-specific adapter of a BCR (BTB-CUL3-RBX1) E3 ubiquitin ligase

	complex that regulates the response to oxidative stress by targeting NFE2L2/NRF2 for ubiquitination (PubMed:14585973, PubMed:15379550, PubMed:15572695, PubMed:15601839, PubMed:15983046, PubMed:37339955). KEAP1 acts as a key sensor of oxidative and electrophilic stress: in normal conditions, the BCR(KEAP1) complex mediates ubiquitination and degradation of NFE2L2/NRF2, a transcription factor regulating expression of many cytoprotective genes (PubMed:15601839, PubMed:16006525). In response to oxidative stress, different electrophile metabolites trigger non-enzymatic covalent modifications of highly reactive cysteine residues in KEAP1, leading to inactivate the ubiquitin ligase activity of the BCR(KEAP1) complex, promoting NFE2L2/NRF2 nuclear accumulation and expression of phase II detoxifying enzymes (PubMed:16006525, PubMed:17127771, PubMed:18251510, PubMed:19489739, PubMed:29590092). In response to selective autophagy, KEAP1 is sequestered in inclusion bodies following its interaction with SQSTM1/p62, leading to inactivation of the BCR(KEAP1) complex and activation of NFE2L2/NRF2 (PubMed:20452972). The BCR(KEAP1) complex also mediates ubiquitination of SQSTM1/p62, increasing SQSTM1/p62 sequestering activity and degradation (PubMed:28380357). The BCR(KEAP1) complex also targets BPTF and PGAM5 for ubiquitination and degradation by the proteasome (PubMed:15379550, PubMed:17046835).
Cellular Location	Cytoplasm. Nucleus. Note=Mainly cytoplasmic (PubMed:15601839). In response to selective autophagy, relocalizes to inclusion bodies following interaction with SQSTM1/p62 (PubMed:20452972).
Tissue Location	Broadly expressed, with highest levels in skeletal muscle.

Background

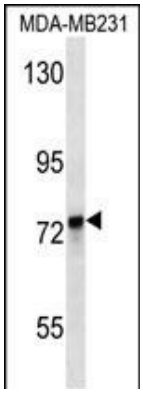
This gene encodes a protein containing KELCH-1 like domains, as well as a BTB/POZ domain. Kelch-like ECH-associated protein 1 interacts with NF-E2-related factor 2 in a redox-sensitive manner and the dissociation of the proteins in the cytoplasm is followed by transportation of NF-E2-related factor 2 to the nucleus. This interaction results in the expression of the catalytic subunit of gamma-glutamylcysteine synthetase. Two alternatively spliced transcript variants encoding the same isoform have been found for this gene.

References

Dinkova-Kostova, A.T., et al. J. Biol. Chem. 285(44):33747-33755(2010)
Kang, H.J., et al. J. Biol. Chem. 285(28):21258-21268(2010)
Lau, A., et al. Mol. Cell. Biol. 30(13):3275-3285(2010)
Copple, I.M., et al. J. Biol. Chem. 285(22):16782-16788(2010)
Takahashi, T., et al. J Surg Oncol 101(6):500-506(2010)

Images

KEAP1 Antibody (Cat. #AM1968b) western blot analysis in MDA-MB231 cell line lysates (35µg/lane).This demonstrates the KEAP1 antibody detected the KEAP1 protein (arrow).



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