

KEAP1 Antibody

Purified Mouse Monoclonal Antibody

Catalog # AO1778a

Product Information

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| Application | WB, FC, ICC, E |
| Primary Accession | Q14145 |
| Reactivity | Human, Mouse |
| Host | Mouse |
| Clonality | Monoclonal |
| Clone Names | 1F10B6 |
| Isotype | IgG1 |
| Calculated MW | 69666 |
| Description | 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. |
| Immunogen | Purified recombinant fragment of human KEAP1 (AA: 380-624) expressed in E. Coli. |
| Formulation | Ascitic fluid containing 0.03% sodium azide. |

Additional Information

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| Gene ID | 9817 |
| Other Names | Kelch-like ECH-associated protein 1, Cytosolic inhibitor of Nrf2, INrf2, Kelch-like protein 19, KEAP1, INRF2, KIAA0132, KLHL19 |
| Dilution | WB~~1/500 - 1/2000 FC~~1/200 - 1/400 ICC~~N/A E~~1/10000 |
| Storage | Maintain refrigerated at 2-8°C for up to 6 months. 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

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| Name | KEAP1 {ECO:0000303 PubMed:14585973, ECO:0000312 HGNC:HGNC:23177} |
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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.

References

1.Cell Signal. 2010 Nov;22(11):1645-54. 2.Mol Cancer Ther. 2010 Feb;9(2):336-46.

Images

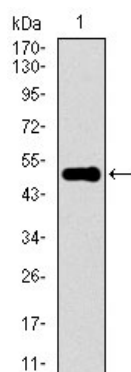


Figure 1: Western blot analysis using KEAP1 mAb against human KEAP1 recombinant protein. (Expected MW is 52.7 kDa)

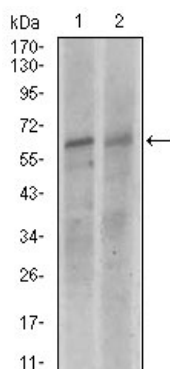


Figure 2: Western blot analysis using KEAP1 mouse mAb against NIH3T3 (1), and A549 (2) cell lysate.

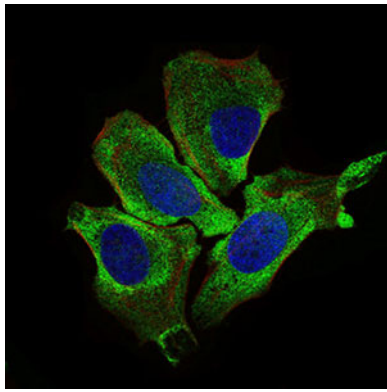


Figure 3: Immunofluorescence analysis of HeLa cells using KEAP1 mouse mAb (green). Blue: DRAQ5 fluorescent DNA dye. Red: Actin filaments have been labeled with Alexa Fluor-555 phalloidin.

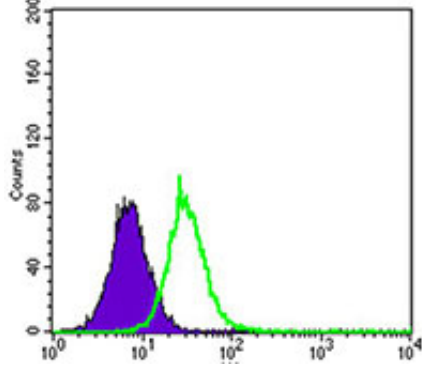


Figure 4: Flow cytometric analysis of HepG2 cells using KEAP1 mouse mAb (green) and negative control (purple).

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