

**KEAP1 Antibody**  
**Catalog # ASC11552****Specification****KEAP1 Antibody - Product Information**

|                   |   |
|-------------------|---|
| Application       | WB, IF  |
| Primary Accession | <a href="#">Q14145</a>  |
| Other Accession   | <a href="#">NP_987096</a> , <a href="#">45269145</a>  |
| Reactivity        | Human, Mouse, Rat   |
| Host              | Rabbit  |
| Clonality         | Polyclonal  |
| Isotype           | IgG   |
| Calculated MW     | 69 kDa KDa  |
| Application Notes | KEAP1 antibody can be used for detection of KEAP1 by Western blot at 1 - 2 µg/mL. For immunofluorescence start at 20 µg/mL. |

**KEAP1 Antibody - Additional Information**Gene ID **9817****Target/Specificity**

KEAP1; At least two isoforms of KEAP1 are known to exist.

**Reconstitution & Storage**

KEAP1 antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

**Precautions**

KEAP1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

**KEAP1 Antibody - 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:<a href="http://www.uniprot.org/citations/14585973" target="\_blank">14585973</a>, PubMed:<a href="http://www.uniprot.org/citations/15379550" target="\_blank">15379550</a>, PubMed:<a href="http://www.uniprot.org/citations/15572695" target="\_blank">15572695</a>, PubMed:<a href="http://www.uniprot.org/citations/15983046" target="\_blank">15983046</a>, PubMed:<a href="http://www.uniprot.org/citations/15601839" target="\_blank">15601839</a>, PubMed:<a href="http://www.uniprot.org/citations/37339955" target="\_blank">37339955</a>). 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:<a href="http://www.uniprot.org/citations/15601839" target="\_blank">15601839</a>, PubMed:<a

[16006525](http://www.uniprot.org/citations/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:[19489739](http://www.uniprot.org/citations/19489739), PubMed:[16006525](http://www.uniprot.org/citations/16006525), PubMed:[17127771](http://www.uniprot.org/citations/17127771), PubMed:[18251510](http://www.uniprot.org/citations/18251510), PubMed:[29590092](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/20452972)). The BCR(KEAP1) complex also mediates ubiquitination of SQSTM1/p62, increasing SQSTM1/p62 sequestering activity and degradation (PubMed:[28380357](http://www.uniprot.org/citations/28380357)). The BCR(KEAP1) complex also targets BPTF and PGAM5 for ubiquitination and degradation by the proteasome (PubMed:[15379550](http://www.uniprot.org/citations/15379550), PubMed:[17046835](http://www.uniprot.org/citations/17046835)).

#### Cellular Location

Cytoplasm. Nucleus. Note=Mainly cytoplasmic (PubMed:15601839). In response to selective autophagy, relocates to inclusion bodies following interaction with SQSTM1/p62 (PubMed:20452972).

#### Tissue Location

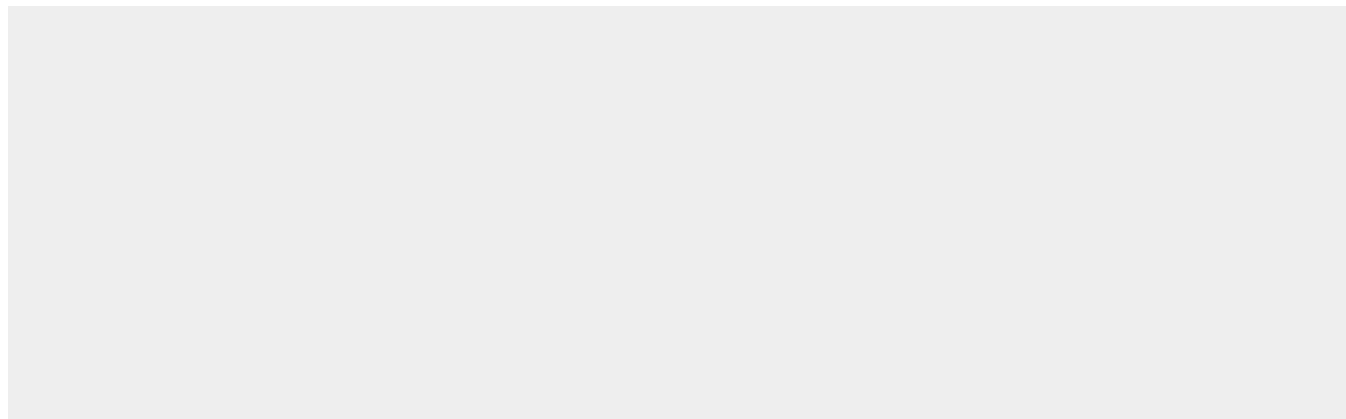
Broadly expressed, with highest levels in skeletal muscle.

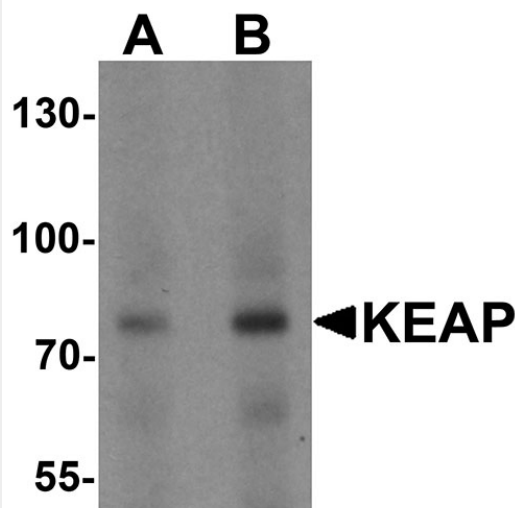
#### KEAP1 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

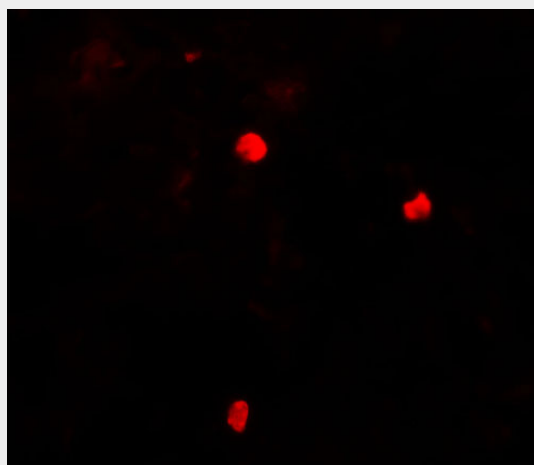
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### KEAP1 Antibody - Images





Western blot analysis of KEAP1 in human lung tissue lysate with KEAP1 antibody at (A) 1 and (B) 2 µg/mL.



Immunofluorescence of KEAP1 in human lung tissue with KEAP1 antibody at 20 µg/mL.

### KEAP1 Antibody - Background

KEAP1 Antibody: KEAP1 (kelch-like ECH-associated protein 1) is a stress sensing adaptor for the Cullin3 (Cul3)-dependent E3 ubiquitin ligase complex that negatively regulates NRF2 (NF-E2-related factor 2) and plays a role in the oxidative stress response. It targets NFE2L2/NRF2 for ubiquitination and degradation by the proteasome. KEAP1 contains an amino terminal BTB/POZ domain and a carboxyl terminal KELCH domain which are required for interaction with NRF2, and in binding Cul3-E3 ubiquitin ligase. Altered expression of NRF2 is associated with chronic obstructive pulmonary disease (COPD). KEAP1 also targets the down regulation of NF-κB activity by targeting IKKβ degradation. Mutation of the KEAP1 gene is found in lung cancer.

### KEAP1 Antibody - References

Zhang DD, Lo SC, Cross JV, et al. Keap1 is a redox-regulated substrate adaptor protein for a Cul3-dependent ubiquitin ligase complex. *Mol. Cell. Biol.* 2004;24:10941-53.  
Kobayashi A, Kang MI, Okawa H, et al. Oxidative stress sensor Keap1 functions as an adaptor for Cul3-based E3 ligase to regulate proteasomal degradation of Nrf2. *Mol. Cell. Biol.* 2004; 24:7130-9.  
Jiang J, Mo ZC, Yin K, et al. Epigallocatechin-3-gallate prevents TNF-α-induced NF-κB activation thereby upregulating ABCA1 via the Nrf2/Keap1 pathway in macrophage foam cells. *Int. J. Mol. Med.* 2012; 29:946-56.

Devling TW, Lindsay CD, McLellan LI, et al. Utility of siRNA against Keap1 as a strategy to stimulate a cancer chemopreventive phenotype. Proc. Natl. Acad. Sci. USA 2005; 102: 7280-5A.