

**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: [14585973](http://www.uniprot.org/citations/14585973), PubMed: [15379550](http://www.uniprot.org/citations/15379550), PubMed: [15572695](http://www.uniprot.org/citations/15572695), PubMed: [15601839](http://www.uniprot.org/citations/15601839), PubMed: [15983046](http://www.uniprot.org/citations/15983046), PubMed: [37339955](http://www.uniprot.org/citations/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](http://www.uniprot.org/citations/15601839), PubMed: [15601839](http://www.uniprot.org/citations/15601839)).

<http://www.uniprot.org/citations/16006525> target="\_blank">16006525</a>). 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:<a href="http://www.uniprot.org/citations/16006525" target="\_blank">16006525</a>, PubMed:<a href="http://www.uniprot.org/citations/17127771" target="\_blank">17127771</a>, PubMed:<a href="http://www.uniprot.org/citations/18251510" target="\_blank">18251510</a>, PubMed:<a href="http://www.uniprot.org/citations/19489739" target="\_blank">19489739</a>, PubMed:<a href="http://www.uniprot.org/citations/29590092" target="\_blank">29590092</a>). 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:<a href="http://www.uniprot.org/citations/20452972" target="\_blank">20452972</a>). The BCR(KEAP1) complex also mediates ubiquitination of SQSTM1/p62, increasing SQSTM1/p62 sequestering activity and degradation (PubMed:<a href="http://www.uniprot.org/citations/28380357" target="\_blank">28380357</a>). The BCR(KEAP1) complex also targets BPTF and PGAM5 for ubiquitination and degradation by the proteasome (PubMed:<a href="http://www.uniprot.org/citations/15379550" target="\_blank">15379550</a>, PubMed:<a href="http://www.uniprot.org/citations/17046835" target="\_blank">17046835</a>).

#### 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.

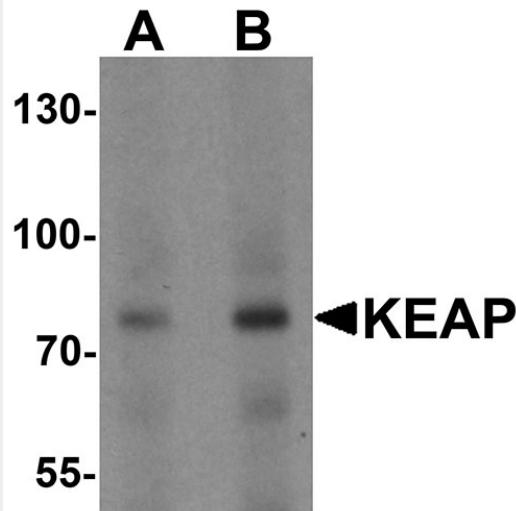
#### KEAP1 Antibody - Protocols

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

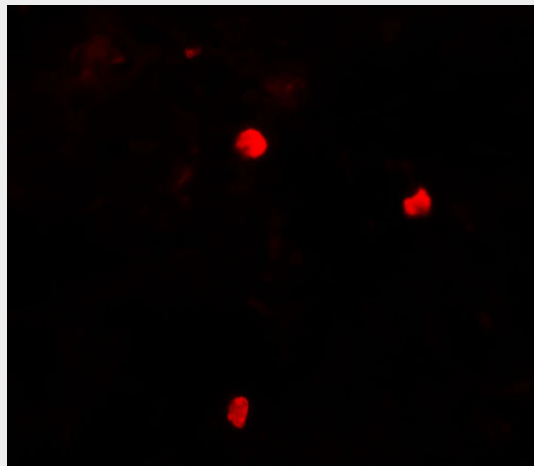
- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

#### KEAP1 Antibody - Images





Western blot analysis of KEAP1 in human lung tissue lysate with KEAP1 antibody at (A) 1 and (B) 2  $\mu\text{g/mL}$ .



Immunofluorescence of KEAP1 in human lung tissue with KEAP1 antibody at 20  $\mu\text{g/mL}$ .

### 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- $\kappa$ B activity by targeting IKK $\beta$  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- $\alpha$ -induced NF-kappaB 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.