

Keap1 (E-20): sc-15246

BACKGROUND

Keap1 (kelch-like ECH-associated protein 1, INrf2, KLHL19) is a stress sensing adaptor for the Cullin3 (Cul3)-dependent E3 ubiquitin ligase complex that negatively regulates Nrf2 (NF-E2-related factor 2). Steady state levels of proteins are under the influence of the ubiquitin pathway, which consists of ubiquitin activation (E1), conjugation (E2) and ligation (E3). Keap1 assembles into an E3 ubiquitin ligase complex with Cul3 and Rbx1 and targets lysine residues in the N-terminal Neh2 domain of Nrf2 for ubiquitin conjugation. The Keap1-Nrf2 system mediates cytoprotective gene expression in response to oxidative and/or electrophilic stresses. Keap1 constitutively suppresses Nrf2 activity under unstressed conditions, oxidants or electrophiles provoke the repression of Keap1 activity, inducing Nrf2 activation. Cys 273 and Cys 288 residues of Keap1 are required for suppressing Nrf2 nuclear accumulation. Keap1 sequesters Nrf2 in the cytoplasm through an active Crm1/exportin-dependent nuclear export mechanism.

CHROMOSOMAL LOCATION

Genetic locus: KEAP1 (human) mapping to 19p13.2; Keap1 (mouse) mapping to 9 A3.

SOURCE

Keap1 (E-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of Keap1 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-15246 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Keap1 (E-20) is recommended for detection of Keap1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Keap1 (E-20) is also recommended for detection of Keap1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for Keap1 siRNA (h): sc-43878, Keap1 siRNA (m): sc-43879, Keap1 shRNA Plasmid (h): sc-43878-SH, Keap1 shRNA Plasmid (m): sc-43879-SH, Keap1 shRNA (h) Lentiviral Particles: sc-43878-V and Keap1 shRNA (m) Lentiviral Particles: sc-43879-V.

Molecular Weight of Keap1: 69 kDa.

Positive Controls: A-673 cell lysate: sc-2414 or Hep G2 cell lysate: sc-2227.

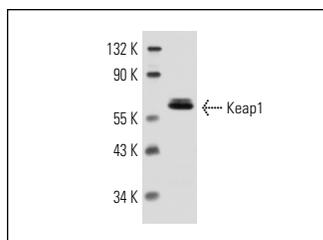
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

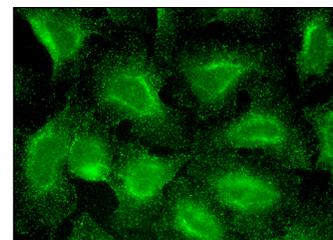
RESEARCH USE

For research use only, not for use in diagnostic procedures.

DATA



Keap1 (E-20): sc-15246. Western blot analysis of Keap1 expression in A-673 whole cell lysate.



Keap1 (E-20): sc-15246. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization.

SELECT PRODUCT CITATIONS

- Li, N., et al. 2004. Nrf2 is a key transcription factor that regulates antioxidant defense in macrophages and epithelial cells: protecting against the proinflammatory and oxidizing effects of diesel exhaust chemicals. *J. Immunol.* 173: 3467-3481.
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- Wondrak, G.T., et al. 2010. The cinnamon-derived dietary factor cinnamic aldehyde activates the Nrf2-dependent antioxidant response in human epithelial colon cells. *Molecules* 15: 3338-3355.
- Zhao, R., et al. 2011. Long isoforms of NRF1 contribute to arsenic-induced antioxidant response in human keratinocytes. *Environ. Health Perspect.* 119: 56-62.
- Ren, D., et al. 2011. Brusatol enhances the efficacy of chemotherapy by inhibiting the Nrf2-mediated defense mechanism. *Proc. Natl. Acad. Sci. USA* 108: 1433-1438.
- Tanaka, N., et al. 2011. Expression of Keap1-Nrf2 system and antioxidative proteins in mouse brain after transient middle cerebral artery occlusion. *Brain Res.* 1370: 246-253.
- Macari, E.R., et al. 2011. Induction of human fetal hemoglobin via the NRF2 antioxidant response signaling pathway. *Blood* 117: 5987-5997.



Try **Keap1 (G-2): sc-365626** or **Keap1 (A-4): sc-515432**, our highly recommended monoclonal alternatives to Keap1 (E-20). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **Keap1 (G-2): sc-365626**.