

HERP (19-Y): sc-100721



The Power to Question

BACKGROUND

The endoplasmic reticulum (ER) stress response is triggered by the accumulation of unfolded proteins within the ER and is characterized by three events: the inhibition of translation (to prevent further protein accumulation), the up-regulated expression of polypeptide-folding proteins (known as the unfolded protein response, or UPR) and the degradation of misfolded proteins by the ER-associated protein degradation (ERAD) system. HERP, also known as HERPUD1 (homocysteine-inducible, endoplasmic reticulum stress-inducible, ubiquitin-like domain member 1), SUP or MIF1, is a 391 amino acid multi-pass membrane protein that localizes to the ER and contains one N-terminal ubiquitin-like domain. Widely expressed with highest expression in the brain, HERP is a component of the ERAD system and, via its ubiquitin-like domain, is thought to be involved in the destruction of misfolded proteins. Three isoforms of HERP exist due to alternative splicing events.

REFERENCES

1. van Laar, T., et al. 2000. The novel MMS-inducible gene Mif1/KIAA0025 is a target of the unfolded protein response pathway. *FEBS Lett.* 469: 123-131.
2. Kokame, K., et al. 2000. HERP, a new ubiquitin-like membrane protein induced by endoplasmic reticulum stress. *J. Biol. Chem.* 275: 32846-32853.

CHROMOSOMAL LOCATION

Genetic locus: HERPUD1 (human) mapping to 16q13; Herpud1 (mouse) mapping to 8 C5.

SOURCE

HERP (19-Y) is a mouse monoclonal antibody raised against recombinant protein corresponding to amino acids 74-180 of HERP of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

HERP (19-Y) is recommended for detection of HERP 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), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for HERP siRNA (h): sc-75245, HERP siRNA (m): sc-75246, HERP shRNA Plasmid (h): sc-75245-SH, HERP shRNA Plasmid (m): sc-75246-SH, HERP shRNA (h) Lentiviral Particles: sc-75245-V and HERP shRNA (m) Lentiviral Particles: sc-75246-V.

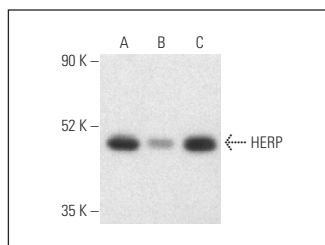
Molecular Weight of HERP: 54 kDa.

Positive Controls: U266 whole cell lysate: sc-364800, RT-4 whole cell lysate: sc-364257 or LNCaP cell lysate: sc-2231.

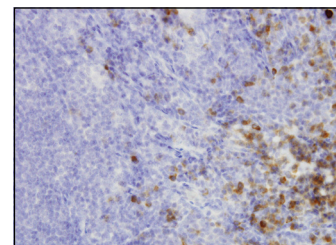
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



HERP (19-Y): sc-100721. Western blot analysis of HERP expression in U266 (A), RT-4 (B) and LNCaP (C) whole cell lysates. Detection reagent used: m-IgG Fc BP-HRP: sc-525409.



HERP (19-Y): sc-100721. Immunoperoxidase staining of formalin-fixed, paraffin-embedded human tonsil tissue showing nuclear and cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Zhong, Y., et al. 2015. Identification of ERAD components essential for dislocation of the null Hong Kong variant of α -1-antitrypsin (NHK). *Biochem. Biophys. Res. Commun.* 458: 424-428.
2. Mirabelli, C., et al. 2016. The CREB3-HERP signalling module limits the cytosolic calcium concentration increase and apoptosis induced by poliovirus. *J. Gen. Virol.* 97: 2194-2200.
3. Cremer, T., et al. 2023. RNF26 binds perinuclear vimentin filaments to integrate ER and endolysosomal responses to proteotoxic stress. *EMBO J.* 42: e1111252.

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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.