

# HERP (19-Y): sc-100721

## 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<sub>2a</sub> 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.

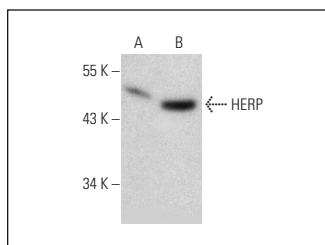
Molecular Weight of HERP: 54 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or EOC 20 whole cell lysate: sc-364187.

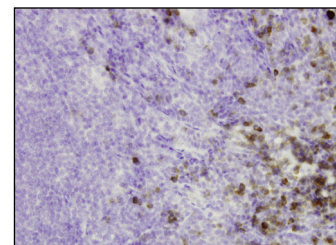
## RECOMMENDED SUPPORT REAGENTS

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 Hep G2 (A) and EOC 20 (B) whole cell lysates.



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  $\alpha$ -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.

## 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](http://www.scbt.com) for detailed protocols and support products.