

HRI (H-165): sc-30143

BACKGROUND

HRI (heme-regulated inhibitor kinase) phosphorylates the α subunit of eIF2 α kinase, which plays an important role in translational regulation during heme deficiency. HRI is activated in response to a number of environmental conditions, including heme deficiency, heat shock and oxidative stress. Autophosphorylation is essential for the activation of HRI, which causes an arrest of initiation of protein synthesis. Both HSP 90 and HSC 70 are necessary for all stress-induced HRI activation. Furthermore, HSC 70 is required for the folding and transformation of HRI into an active kinase and is subsequently required to negatively attenuate the activation of transformed HRI. Both the N-terminus and the kinase insertion domain, which are unique to HRI, are involved in the heme binding and the heme regulation of HRI. The human HRI gene maps to chromosome 7p22.1 and encodes a 630 amino acid protein expressed mainly in erythroid cells.

CHROMOSOMAL LOCATION

Genetic locus: EIF2AK1 (human) mapping to 7p22.1; Eif2ak1 (mouse) mapping to 5 G2.

SOURCE

HRI (H-165) is a rabbit polyclonal antibody raised against amino acids 27-165 mapping at the N-terminus of HRI of human origin.

PRODUCT

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

STORAGE

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

APPLICATIONS

HRI (H-165) is recommended for detection of HRI of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

HRI (H-165) is also recommended for detection of HRI in additional species, including equine, canine and bovine.

Suitable for use as control antibody for HRI siRNA (h): sc-39052, hRIF siRNA (m): sc-75302, HRI shRNA Plasmid (h): sc-39052-SH, hRIF shRNA Plasmid (m): sc-75302-SH, HRI shRNA (h) Lentiviral Particles: sc-39052-V and hRIF shRNA (m) Lentiviral Particles: sc-75302-V.

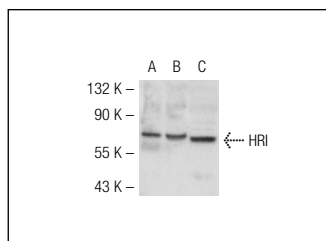
Molecular Weight of HRI: 71 kDa.

Positive Controls: HRI (m): 293T Lysate: sc-120895 or HEL 92.1.7 cell lysate: sc-2270.

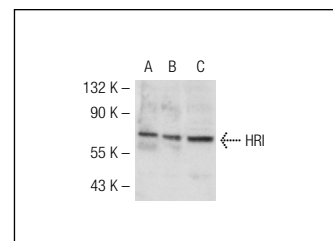
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



HRI (H-165): sc-30143. Western blot analysis of HRI expression in non-transfected 293T: sc-117752 (A), mouse HRI transfected 293T: sc-120895 (B) and HEL 92.1.7 (C) whole cell lysates.



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SELECT PRODUCT CITATIONS

1. Baugh, J.M., et al. 2009. Proteasomes can degrade a significant proportion of cellular proteins independent of ubiquitination. J. Mol. Biol. 386: 814-827.
2. Brunelli, C., et al. 2012. The non-steroidal anti-inflammatory drug indomethacin activates the eIF2 α kinase PKR, causing a translational block in human colorectal cancer cells. Biochem. J. 443: 379-386.

RESEARCH USE

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

PROTOCOLS

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

MONOS
Satisfaction
Guaranteed

Try **HRI (D-12): sc-365239**, our highly recommended monoclonal alternative to HRI (H-165).