

# CHAC1 (E-15): sc-133320

## BACKGROUND

CHAC1 (ChaC, cation transport regulator homolog 1 (*E. coli*)) is a 264 amino acid cytoplasmic protein that belongs to the ChaC family. Induced by chemical activators of the unfolded protein response (UPR) pathway, including DTT, tunicamycin and thapsigargin, CHAC1 is a pro-apoptotic member of this pathway and may mediate the pro-apoptotic effects of the ATF4-ATF3-DDIT3/CHOP cascade. Overexpression of CHAC1 may lead to an increase in apoptosis, while suppression of CHAC1 results in subdued apoptosis. Existing as two alternatively spliced isoforms, the gene encoding CHAC1 maps to human chromosome 15q15.1. Encoding more than 700 genes, chromosome 15 is made up of approximately 106 million base pairs and comprises about 3% of the human genome. Angelman, Prader-Willi and Marfan syndromes are associated with loss of function or deletion of genes that are encoded by chromosome 15.

## REFERENCES

1. Midla, G.S. 2008. Diagnosis and management of patients with Marfan syndrome. *JAAPA* 21: 21-25.
2. Mungrue, I.N., et al. 2009. CHAC1/MGC4504 is a novel proapoptotic component of the unfolded protein response, downstream of the ATF4-ATF3-CHOP cascade. *J. Immunol.* 182: 466-476.
3. Ferrer-Bolufer, I., et al. 2009. Tyrosinemia type 1 and Angelman syndrome due to paternal uniparental isodisomy 15. *J. Inher. Metab. Dis.* 32: S349-S353.
4. Wawrzik, M., et al. 2010. The C15orf2 gene in the Prader-Willi syndrome region is subject to genomic imprinting and positive selection. *Neurogenetics* 11: 153-161.
5. Bower, N.I. and Johnston, I.A. 2010. Discovery and characterization of nutritionally regulated genes associated with muscle growth in Atlantic salmon. *Physiol. Genomics* 42: 114-130.

## CHROMOSOMAL LOCATION

Genetic locus: CHAC1 (human) mapping to 15q15.1; Chac1 (mouse) mapping to 2 E5.

## SOURCE

CHAC1 (E-15) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an internal region of CHAC1 of human origin.

## PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-133320 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

CHAC1 (E-15) is recommended for detection of CHAC1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:50-1:500), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:25, dilution range 1:25-1:250) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with CHAC2.

CHAC1 (E-15) is also recommended for detection of CHAC1 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for CHAC1 siRNA (h): sc-90164, CHAC1 siRNA (m): sc-142310, CHAC1 shRNA Plasmid (h): sc-90164-SH, CHAC1 shRNA Plasmid (m): sc-142310-SH, CHAC1 shRNA (h) Lentiviral Particles: sc-90164-V and CHAC1 shRNA (m) Lentiviral Particles: sc-142310-V.

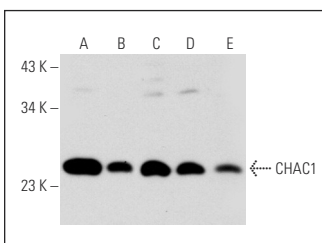
Molecular Weight of CHAC1: 29 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, MIA PaCa-2 cell lysate: sc-2285 or NIH/3T3 whole cell lysate: sc-2210.

## 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



CHAC1 (E-15): sc-133320. Western blot analysis of CHAC1 expression in HeLa (A), NIH/3T3 (B), MIA PaCa-2 (C) and C2C12 (D) whole cell lysates and mouse pancreas tissue extract (E).

## 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) or our catalog for detailed protocols and support products.