SANTA CRUZ BIOTECHNOLOGY, INC.

CHERP (SS5): sc-100650

BACKGROUND

The regulation of the intracellular concentration of calcium is important for proper maintenance of voltage-gated ion channels which control muscle and nerve function. Calcium homeostasis is regulated by a variety of proteins. CHERP (calcium homeostasis endoplasmic reticulum protein), also known as SRA1, DAN16 or SCAF6, is a 916 amino acid protein that localizes to the cytoplasm and the endoplasmic reticulum (ER). Expressed in pancreas, brain, lung, placenta, liver, kidney, heart and skeletal muscle, CHERP is involved in maintaining calcium homeostasis and plays a role in cell growth and proliferation. CHERP contains one G-patch domain, one RPR domain and one SURP motif. It is expressed as two isoforms due to alternative splicing events.

REFERENCES

1. O'Rourke, F., et al. 1994. Ca^{2+} release by inositol 1,4,5-trisphosphate is blocked by the K^+-channel blockers apamin and tetrapentylammonium ion, and a monoclonal antibody to a 63 kDa membrane protein: reversal of blockade by K^+ ionophores nigericin and valinomycin and purification of the 63 kDa antibody-binding protein. Biochem. J. 300: 673-683.
2. Laplante, J.M., et al. 2000. Cloning of human Ca^{2+} homoeostasis endoplasmic reticulum protein (CHERP): regulated expression of antisense cDNA depletes CHERP, inhibits intracellular Ca^{2+} mobilization and decreases cell proliferation. Biochem. J. 348: 189-199.
3. Ding, W., et al. 2002. Human T-cell lymphotropic virus type 1 $p12^I$ expression increases cytoplasmic calcium to enhance the activation of nuclear factor of activated T cells. J. Virol. 76: 10374-10382.
4. O'Rourke, F.A., et al. 2003. Antisense-mediated loss of calcium homoeostasis endoplasmic reticulum protein (CHERP; ERPROT213-21) impairs Ca^{2+} mobilization, nuclear factor of activated T-cells (NFAT) activation and cell proliferation in Jurkat T-lymphocytes. Biochem. J. 373: 133-143.
5. Brandenberger, R., et al. 2004. Transcriptome characterization elucidates signaling networks that control human ES cell growth and differentiation. Nat. Biotechnol. 22: 707-716.

CHROMOSOMAL LOCATION

Genetic locus: CHERP (human) mapping to 19p13.11; Cherp (mouse) mapping to 8 B3.3.

SOURCE

CHERP (SS5) is a mouse monoclonal antibody raised against recombinant CHERP of human origin.

PRODUCT

Each vial contains 50 µg IgG_{2b} kappa light chain in 0.5 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

CHERP (SS5) is recommended for detection of CHERP 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for CHERP siRNA (h): sc-97408, CHERP siRNA (m): sc-142324, CHERP shRNA Plasmid (h): sc-97408-SH, CHERP shRNA Plasmid (m): sc-142324-SH, CHERP shRNA (h) Lentiviral Particles: sc-97408-V and CHERP shRNA (m) Lentiviral Particles: sc-142324-V.

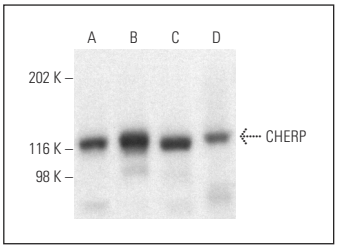
Molecular Weight of CHERP: 100 kDa.

Positive Controls: CHERP (m2): 293T Lysate: sc-119222, HeLa whole cell lysate: sc-2200 or IMR-32 cell lysate: sc-2409.

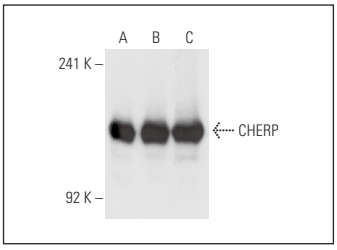
RECOMMENDED SUPPORT REAGENTS

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).

DATA



CHERP (SS5): sc-100650. Western blot analysis of CHERP expression in U-251-MG (**A**), HeLa (**B**), HCT-116 (**C**) and IMR-32 (**D**) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.



CHERP (SS5): sc-100650. Western blot analysis of CHERP expression in non-transfected 293T: sc-117752 (**A**), mouse CHERP transfected 293T: sc-119222 (**B**) and IMR-32 (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Crisci, A., et al. 2015. Mammalian splicing factor SF1 interacts with SURP domains of U2 snRNP-associated proteins. Nucleic Acids Res. 43: 10456-10473.
2. Jin, L., et al. 2020. STRAP regulates alternative splicing fidelity during lineage commitment of mouse embryonic stem cells. Nat. Commun. 11: 5941.

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.