SANTA CRUZ BIOTECHNOLOGY, INC.

CLAMP (E-9): sc-374099

BACKGROUND

CLAMP, also known as SPEF1 (sperm flagellar protein 1), is an 236 amino acid protein that is present in epididymal sperm and localizes to the cell projection, as well as to the cytoplasm. Expressed in lung, brain and testis, CLAMP functions as a microtubule-associated protein that is thought to play a role in microtubule bundling. Human CLAMP exists as two alternatively spliced isoforms and shares a high degree of homology with its mouse counterpart, suggesting a conserved role between species. The gene encoding CLAMP maps to human chromosome 20, which houses over 600 genes and comprises nearly 2% of the human genome.

CHROMOSOMAL LOCATION

Genetic locus: SPEF1 (human) mapping to 20p13; Spef1 (mouse) mapping to 2 F1.

SOURCE

CLAMP (E-9) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 41-73 within an internal region of CLAMP of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-374099 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

CLAMP (E-9) is recommended for detection of CLAMP 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).

CLAMP (E-9) is also recommended for detection of CLAMP in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for CLAMP siRNA (h): sc-72914, CLAMP siRNA (m): sc-142360, CLAMP shRNA Plasmid (h): sc-72914-SH, CLAMP shRNA Plasmid (m): sc-142360-SH, CLAMP shRNA (h) Lentiviral Particles: sc-72914-V and CLAMP shRNA (m) Lentiviral Particles: sc-142360-V.

Molecular Weight (predicted) of CLAMP: 27 kDa.

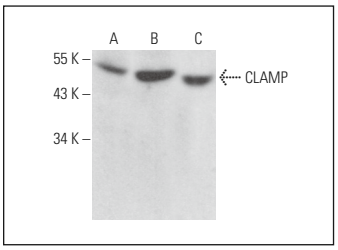
Molecular Weight (observed) of CLAMP: 40-47 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227 or NIH/3T3 whole cell lysate: sc-2210 or F9 cell lysate: sc-2245.

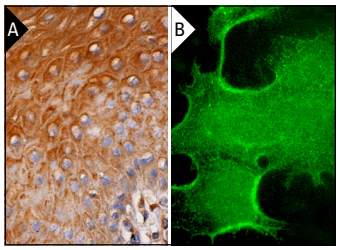
RECOMMENDED SUPPORT REAGENTS

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



CLAMP (E-9): sc-374099. Western blot analysis of CLAMP expression in Hep G2 (**A**), NIH/3T3 (**B**) and F9 (**C**) whole cell lysates.



CLAMP (E-9): sc-374099. Immunoperoxidase staining of formalin fixed, paraffin-embedded human oral mucosa tissue showing cytoplasmic staining of squamous epithelial cells (**A**). Immunofluorescence staining of formalin-fixed Hep G2 cells showing cytoskeletal localization (**B**).

SELECT PRODUCT CITATIONS

1. Tapia, R., Perez-Yepez, E.A., Carlino, M.J., Karandikar, U.C., Kralicek, S.E., Estes, M.K. and Hecht, G.A. 2019. Sperm flagellar 1 binds Actin in intestinal epithelial cells and contributes to formation of filopodia and lamellipodia. Gastroenterology 157: 1544-1555.e3.

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.