SANTA CRUZ BIOTECHNOLOGY, INC.

CARMIL (E-10): sc-365314

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

CARMIL, also referred to as leucine-rich repeat containing 16 (LRRC16), is a member of a recently described family of leucine-rich repeat containing proteins which have a variety of functions throughout the body. CARMIL interacts with the Arp2/3 complex, the Actin capping protein CP and Myosin I to help assemble a multi-protein structure that is crucial to proper cell development. Through its interactions with these three proteins, CARMIL regulates capping of Actin filaments at the barbed end, nucleation of Actin by the Arp2/3 complex and Actin filament assembly by Myosin I, a barbed-end directed motor. Together, this complex generates the force for diverse cellular movements such as cytokinesis, phagocytosis and muscle contraction. Defects in the gene encoding CARMIL are thought to have various detrimental effects including reduced chemotactic aggregation, lowered rates of pinocytosis and inefficient assembly of the Myosin-Arp2/3-CP complex. Without proper CARMIL function, cell development is retarded due to improper Actin filament assembly.

REFERENCES

1. Jung, G., et al. 2001. The *Dictyostelium* CARMIL protein links capping protein and the Arp2/3 complex to type I myosins through their SH3 domains. J. Cell Biol. 153: 1479-1497.
2. Remmert, K., et al. 2004. CARMIL is a bona fide capping protein interactant. J. Biol. Chem. 279: 3068-3077.
3. Yang, C., et al. 2005. Mammalian CARMIL inhibits Actin filament capping by capping protein. Dev. Cell 9: 209-221.
4. Huang, M., et al. 2005. Presence of a novel inhibitor of capping protein in neutrophil extract. Cell Motil. Cytoskeleton 62: 232-243.

CHROMOSOMAL LOCATION

Genetic locus: LRRC16A (human) mapping to 6p22.2; Lrrc16a (mouse) mapping to 13 A3.1.

SOURCE

CARMIL (E-10) is a mouse monoclonal antibody raised against amino acids 662-961 mapping within an internal region of CARMIL of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CARMIL (E-10) is available conjugated to agarose (sc-365314 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-365314 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-365314 PE), fluorescein (sc-365314 FITC), Alexa Fluor® 488 (sc-365314 AF488), Alexa Fluor® 546 (sc-365314 AF546), Alexa Fluor® 594 (sc-365314 AF594) or Alexa Fluor® 647 (sc-365314 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-365314 AF680) or Alexa Fluor® 790 (sc-365314 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

CARMIL (E-10) is recommended for detection of CARMIL of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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) (start-ing 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 CARMIL siRNA (h): sc-62080, CARMIL siRNA (m): sc-62081, CARMIL shRNA Plasmid (h): sc-62080-SH, CARMIL shRNA Plasmid (m): sc-62081-SH, CARMIL shRNA (h) Lentiviral Particles: sc-62080-V and CARMIL shRNA (m) Lentiviral Particles: sc-62081-V.

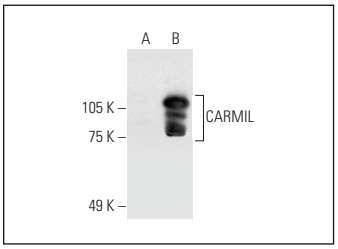
Molecular Weight of CARMIL: 125 kDa.

Positive Controls: CARMIL (m): 293T Lysate: sc-119001.

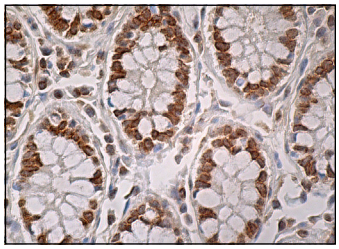
RECOMMENDED SUPPORT REAGENTS

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



CARMIL (E-10): sc-365314. Western blot analysis of CARMIL expression in non-transfected: sc-117752 (**A**) and mouse CARMIL transfected: sc-119001 (**B**) 293T whole cell lysates.



CARMIL (E-10): sc-365314. Immunoperoxidase staining of formalin fixed, paraffin-embedded human colon tissue showing nuclear envelope and nuclear staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Girón-Pérez, D.A., et al. 2020. Myo1e modulates the recruitment of activated B cells to inguinal lymph nodes. J. Cell Sci. 133: jcs235275.

RESEARCH USE

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