SANTA CRUZ BIOTECHNOLOGY, INC.

Cortactin (G-20): sc-6544

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The Power to Question

BACKGROUND

Cortactin (also designated Ems-1) is a filamentous actin (F-actin) binding protein that has been been shown to be a substrate for Src p60. Cortactin contains tandem 37 amino acid repeats at the amino terminus and an SH3 domain at the carboxy terminus. The tandem repeats appear to be necessary for F-actin binding. Tyrosine phosphorylation of cortactin by Src p60 results in diminished F-actin binding to cortactin and reduced F-actin cross-linking activity. Cortactin has also been shown to be phosphorylated in response to FGF-1. Cortactin exhibits abundant expression in megakaryocytes and platelets, and it may play a role in the maturation of megakaryocytes.

REFERENCES

1. Zhan, X., et al. 1993. Murine cortactin is phosphorylated in response to fibroblast growth factor-1 on tyrosine residues late in the G_1 phase of the BALB/c 3T3 cell cycle. J. Biol. Chem. 268: 24427-24431.
2. Wu, H., et al. 1993. Cortactin, an 80/85-kilodalton pp60src substrate, is a filamentous actin-binding protein enriched in the cell cortex. J. Cell Biol. 120: 1417-1426.
3. Zhan, X., et al. 1994. Association of fibroblast growth factor receptor-1 with c-Src correlates with association between c-Src and cortactin. J. Biol. Chem. 269: 20221-20224.
4. Okamura, H., et al. 1995. p80/85 cortactin associates with the Src SH2 domain and colocalizes with v-Src in transformed cells. J. Biol. Chem. 270: 26613-26618.
5. Huang, C., et al. 1997. Down-regulation of the filamentous actin cross-linking activity of cortactin by Src-mediated tyrosine phosphorylation. J. Biol. Chem. 272: 13911-13915.
6. Zhan, X., et al. 1997. Upregulation of cortactin expression during the maturation of megakaryocytes. Blood 89: 457-464.

CHROMOSOMAL LOCATION

Genetic locus: CTTN (human) mapping to 11q13.3; Cttn (mouse) mapping to 7 F5.

SOURCE

Cortactin (G-20) is available as either goat (sc-6544) or rabbit (sc-6544-R) polyclonal affinity purified antibody raised against a peptide mapping near the C-terminus of Cortactin of human origin.

PRODUCT

Each vial contains either 100 µg (sc-6544) 200 or µg (sc-6544-R) IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-6544 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

Cortactin (G-20) is recommended for detection of Cortactin of mouse, rat, human or chicken 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).

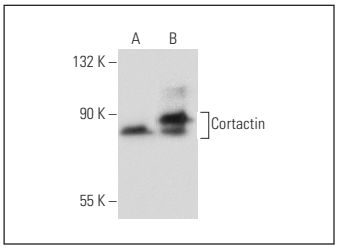
Cortactin (G-20) is also recommended for detection of Cortactin in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for Cortactin siRNA (h): sc-35093, Cortactin siRNA (m): sc-35094, Cortactin shRNA Plasmid (h): sc-35093-SH, Cortactin shRNA Plasmid (m): sc-35094-SH, Cortactin shRNA (h) Lentiviral Particles: sc-35093-V and Cortactin shRNA (m) Lentiviral Particles: sc-35094-V.

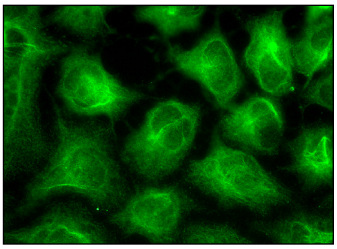
Molecular Weight of Cortactin: 80 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214, F9 cell lysate: sc-2245 or HeLa whole cell lysate: sc-2200.

DATA



Cortactin (G-20)-R: sc-6544-R. Western blot analysis of Cortactin expression in KNRK (**A**) and F9 (**B**) whole cell lysates.



Cortactin (G-20): sc-6544-R. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoskeletal localization.

SELECT PRODUCT CITATIONS

1. Chen, X.M., et al. 2003. Cryptosporidium parvum invasion of biliary epithelia requires host cell tyrosine phosphorylation of cortactin via c-Src. Gastroenterology 125: 216-228.
2. Kimura, F., et al. 2010. Epidermal growth factor-dependent enhancement of invasiveness of squamous cell carcinoma of the breast. Cancer Sci. 101: 1133-1140.

RESEARCH USE

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