SANTA CRUZ BIOTECHNOLOGY, INC.

p-Cortactin (Tyr 466): sc-101661

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The Power to Question

BACKGROUND

Cortactin (also designated Ems-1) is a filamentous Actin (F-Actin) binding protein. It has also 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. Wu, H. and Parsons, J.T. 1993. Cortactin, an 80/85 kDa pp60Src substrate, is a filamentous Actin-binding protein enriched in the cell cortex. J. Cell Biol. 120: 1417-1426.
2. Zhan, X., Hu, X., Hampton, B., Burgess, W.H., Friesel, R. and Maciag, T. 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.
3. Zhan, X., Plourde, C., Hu, X., Friesel, R. and Maciag, T. 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. and Resh, M.D. 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., Ni, Y., Wang, T., Gao, Y., Haudenschild, C.C. and Zhan, X. 1997. Downregulation of the filamentous Actin cross-linking activity of Cortactin by Src-mediated tyrosine phosphorylation. J. Biol. Chem. 272: 13911-13915.
6. Zhan, X., Haudenschild, C.C., Ni, Y., Smith, E. and Huang, C. 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

p-Cortactin (Tyr 466) is a rabbit polyclonal antibody raised against a short amino acid sequence containing phosphorylated Tyr 466 of Cortactin 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.

STORAGE

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

APPLICATIONS

p-Cortactin (Tyr 466) is recommended for detection of Tyr 466 phosphorylated Cortactin of mouse origin and correpondingly phosphorylated Tyr 470 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1–2 µg per 100–500 µg of total protein (1 ml of cell lysate)].

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.

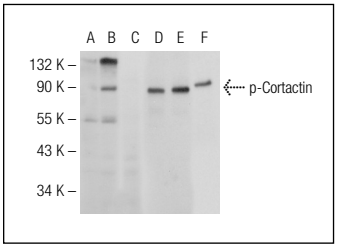
Molecular Weight of p-Cortactin: 80-85 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or HeLa + UV irradiated cell lysate: sc-2221.

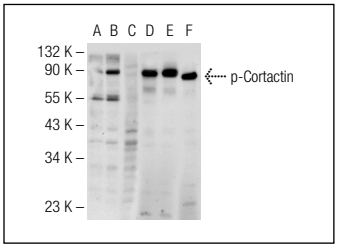
RECOMMENDED SECONDARY REAGENTS

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 B Blocking Reagent: sc-2335 (use 50 mM NaF, sc-24988, as diluent), Western Blotting Luminol Reagent: sc-2048 and Lambda Phosphatase: sc-200312A. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



Western blot analysis of Cortactin phosphorylation in untreated (**A**, **D**), UV irradiated with 1 hour of recovery (**B**, **E**) and UV irradiated with 1 hour of recovery and lambda protein phosphatase (sc-200312A) treated (**C**, **F**) HeLa whole cell lysates. Antibodies tested include p-Cortactin (Tyr 466): sc-101661 (**A**, **B**, **C**) and Cortactin (H-191): sc-11408 (**D**, **E**, **F**).



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RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.