

# Cortactin (A-4): sc-55578

## BACKGROUND

Cortactin (also designated Ems-1) is a filamentous Actin (F-Actin) binding protein that has 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

Cortactin (A-4) is a mouse monoclonal antibody raised against amino acids 309-499 of Cortactin of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Cortactin (A-4) is available conjugated to agarose (sc-55578 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-55578 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-55578 PE), fluorescein (sc-55578 FITC), Alexa Fluor<sup>®</sup> 488 (sc-55578 AF488), Alexa Fluor<sup>®</sup> 546 (sc-55578 AF546), Alexa Fluor<sup>®</sup> 594 (sc-55578 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-55578 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-55578 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-55578 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## APPLICATIONS

Cortactin (A-4) is recommended for detection of Cortactin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:200-1:2000), 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).

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: A-431 whole cell lysate: sc-2201, HeLa whole cell lysate: sc-2200 or Cortactin (m): 293T Lysate: sc-126659.

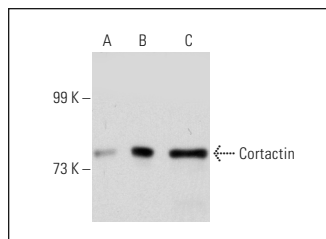
## STORAGE

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

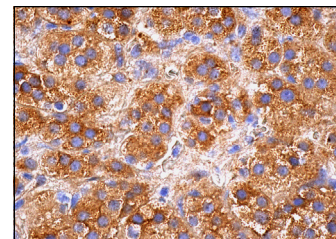
## RESEARCH USE

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

## DATA



Cortactin (A-4): sc-55578. Western blot analysis of Cortactin expression in non-transfected 293T: sc-117752 (A), mouse Cortactin transfected 293T: sc-126659 (B) and HeLa (C) whole cell lysates.



Cortactin (A-4): sc-55578. Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells.

## SELECT PRODUCT CITATIONS

- Menges, C.W., et al. 2010. A phosphotyrosine proteomic screen identifies multiple tyrosine kinase signaling pathways aberrantly activated in malignant mesothelioma. *Genes Cancer* 1: 493-505.
- Zhu, T., et al. 2011. Cortactin activation by FVIIa/tissue factor and PAR2 promotes endothelial cell migration. *Am. J. Physiol. Regul. Integr. Comp. Physiol.* 300: R577-R585.
- Wang, Y., et al. 2013. Loss of p53 facilitates invasion and metastasis of prostate cancer cells. *Mol. Cell. Biochem.* 384: 121-127.
- Bonfim-Melo, A., et al. 2015. *Trypanosoma cruzi* extracellular amastigotes trigger the protein kinase D1-Cortactin-Actin pathway during cell invasion. *Cell. Microbiol.* 17: 1797-1810.
- Maza, P.K., et al. 2017. *Candida albicans*: the ability to invade epithelial cells and survive under oxidative stress is unlinked to hyphal length. *Front. Microbiol.* 8: 1235.
- Wang, Y., et al. 2018. Role and regulation of Abelson tyrosine kinase in Crk-associated substrate/profilin-1 interaction and airway smooth muscle contraction. *Respir. Res.* 19: 4.
- Caires-Dos-Santos, L., et al. 2020. Laminin-derived peptide C16 regulates Tks expression and reactive oxygen species generation in human prostate cancer cells. *J. Cell. Physiol.* 235: 587-598.
- Wang, R., et al. 2022. Smooth muscle myosin localizes at the leading edge and regulates the redistribution of Actin-regulatory proteins during migration. *Cells* 11: 2334.
- Sequeira, M.K., et al. 2023. Cocaine and habit training cause dendritic spine rearrangement in the prefrontal cortex. *iScience* 26: 106240.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.

Alexa Fluor<sup>®</sup> is a trademark of Molecular Probes, Inc., Oregon, USA