SANTA CRUZ BIOTECHNOLOGY, INC.

CtBP (C-1): sc-17805

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

CtBP1 is a cellular phosphoprotein that associates with various proteins and functions as a corepressor of transcription. CtBP1 and the related protein CtBP2 are characterized as C-terminal binding protein of adenovirus E1A, and they preferentially associate with the E1A via a 5-amino acid motif, PLDLS, to repress E1A induced oncogenesis and cellular transformation. CtBP1 is expressed from embryo to adult, but CtBP2 is mainly expressed during embryogenesis. During skeletal and T cell development, CtBP1 and CtBP2 associate with the PLDLSL domain of δEF1, a cellular zinc finger-homeodomain protein, and thereby enhances δEF1 induced transcriptional silencing. In addition, CtBP complexes with CtIP, a protein that recognizes distinctly different protein motifs from CtBP. CtIP binds to the BRCT repeats within the breast cancer gene BRCA1 and enables CtBP to influence BRCA1 activity. CtIP/CtBP binding to BRCA1 inhibits the transactivation of the p21 promoter, and it is critical for regulating p21 transcription in response to DNA damage.

CHROMOSOMAL LOCATION

Genetic locus: CTBP1 (human) mapping to 4p16.3, CTBP2 (human) mapping to 10q26.13; Ctbp1 (mouse) mapping to 5 B1, Ctbp2 (mouse) mapping to 7 F3.

SOURCE

CtBP (C-1) is a mouse monoclonal antibody raised against amino acids 1-440 of CtBP1 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.

APPLICATIONS

CtBP (C-1) is recommended for detection of CtBP1 and CtBP2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1,000), 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).

Molecular Weight of CtBP: 48 kDa.

Positive Controls: Sol8 cell lysate: sc-2249, NRK whole cell lysate: sc-364197 or SH-SY5Y cell lysate: sc-3812.

STORAGE

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

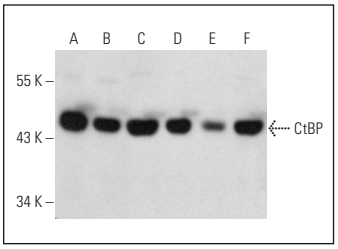
PROTOCOLS

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

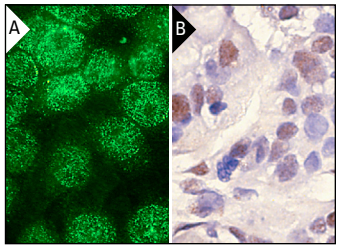
RESEARCH USE

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

DATA



CtBP (C-1): sc-17805. Western blot analysis of CtBP expression in SH-SY5Y (**A**), Neuro-2A (**B**), Sol8 (**C**), 3T3-L1 (**D**), C6 (**E**) and NRK (**F**) whole cell lysates.



CtBP (C-1): sc-17805. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization (**A**). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human breast tumor showing nuclear staining (**B**).

SELECT PRODUCT CITATIONS

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2. Perissi, V., et al. 2008. TBL1 and TBLR1 phosphorylation on regulated gene promoters overcomes dual CtBP and NCoR/SMRT transcriptional repression checkpoints. Mol. Cell 29: 755-766.
3. Cardamone, M.D., et al. 2009. ERα as ligand-independent activator of CDH-1 regulates determination and maintenance of epithelial morphology in breast cancer cells. Proc. Natl. Acad. Sci. USA 106: 7420-7425.
4. Keutgens, A., et al. 2010. The repressing function of the oncoprotein Bcl-3 requires CtBP while its polyubiquitination and degradation involve the E3 ligase TBLR1. Mol. Cell. Biol. 30: 4006-4021.
5. Shimahara, A., et al. 2010. Acetylation of lysine 564 adjacent to the C-terminal binding protein-binding motif in EVI1 is crucial for transcriptional activation of GATA2. J. Biol. Chem. 285: 16967-16977.
6. Gujral, T.S. and MacBeath, G. 2010. A system-wide investigation of the dynamics of Wnt signaling reveals novel phases of transcriptional regulation. PLoS ONE 5: e10024.
7. Napione, L., et al. 2012. IL-12-dependent innate immunity arrests endothelial cells in G_0-G_1 phase by a $p21^{Cip1/Waf1}$-mediated mechanism. Angiogenesis 15: 713-725.
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9. Ding, Z.Y., et al. 2014. Smad6 suppresses the growth and self-renewal of hepatic progenitor cells. J. Cell. Physiol. 229: 651-660.