SANTA CRUZ BIOTECHNOLOGY, INC.

CtBP (B-3): sc-55502

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 enhance 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 (B-3) is a mouse monoclonal antibody raised against amino acids 1-440 of CtBP1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

CtBP (B-3) is recommended for detection of CtBP1 and CtBP2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), 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) 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.

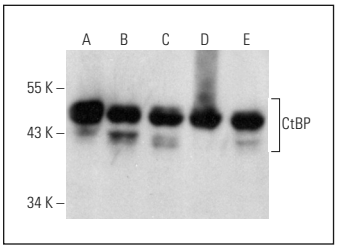
RECOMMENDED SUPPORT REAGENTS

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.

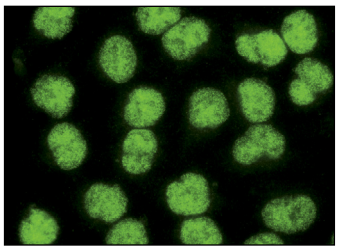
STORAGE

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

DATA



CtBP (B-3): sc-55502. Western blot analysis of CtBP expression in SH-SY5Y (**A**), Neuro-2A (**B**), Sol8 (**C**), 3T3-L1 (**D**) and NRK (**E**) whole cell lysates.



CtBP (B-3): sc-55502. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Pradeepa, M.M., et al. 2014. Psip1/Ledgf p75 restrains Hox gene expression by recruiting both trithorax and polycomb group proteins. Nucleic Acids Res. 42: 9021-9032.
2. Graffe, M., et al. 2015. A marginal band of microtubules transports and organizes mitochondria in retinal bipolar synaptic terminals. J. Gen. Physiol. 146: 109-117.
3. Hoshi, H. and Sato, F. 2018. The morphological characterization of orientation-biased displaced large-field ganglion cells in the central part of goldfish retina. J. Comp. Neurol. 526: 243-261.
4. Koleilat, A., et al. 2020. L-type voltage-gated calcium channel agonists mitigate hearing loss and modify ribbon synapse morphology in the zebrafish model of Usher syndrome type 1. Dis. Model. Mech. 13: dmm043885.
5. Hardy, K., et al. 2021. Functional development and regeneration of hair cells in the zebrafish lateral line. J. Physiol. 599: 3913-3936.
6. Holmgren, M. and Sheets, L. 2021. Influence of Mpv17 on hair-cell mitochondrial homeostasis, synapse integrity, and vulnerability to damage in the zebrafish lateral line. Front. Cell. Neurosci. 15: 693375.
7. Shrestha, A.P., et al. 2022. Embryonic hyperglycemia delays the development of retinal synapses in a zebrafish model. Int. J. Mol. Sci. 23: 9693.
8. Saettele, A.L., et al. 2022. Prolonged dexamethasone exposure enhances zebrafish lateral-line regeneration but disrupts mitochondrial homeostasis and hair cell function. J. Assoc. Res. Otolaryngol. E-published.

RESEARCH USE

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

CONJUGATES

See **CtBP (E-12): sc-17759** for CtBP antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.