



Capicua (S-14): sc-67529

BACKGROUND

Capicua, also referred to as CIC, is the mammalian ortholog of the *Drosophila* cic gene and is part of the HMG-box protein superfamily. Expressed primarily in the fetal brain, Capicua functions as a transcriptional repressor and is involved in the development of the nervous system through interaction with the ATXN1 protein. When ATXN1 assembles into stable complexes, it directly binds Capicua, thereby mediating both the activity and expression of Capicua. When Capicua is active, it is able to interact with other developmental proteins to restrict the growth of granule cells and regulate normal neuronal development. Disruptions in the the association of Capicua with proteins such as ATXN1 are thought to cause medulloblastoma, the most common form of peridiatric brain tumor, arising from irregular growth of granule cells.

REFERENCES

1. Jiménez, G., Guichet, A., Ephrussi, A. and Casanova, J. 2000. Relief of gene repression by torso RTK signaling: role of Capicua in *Drosophila* terminal and dorsoventral patterning. *Genes Dev.* 14: 224-231.
2. Roch, F., Jiménez, G. and Casanova, J. 2002. EGFR signalling inhibits Capicua-dependent repression during specification of *Drosophila* wing veins. *Development* 129: 993-1002.
3. Lee, C.J., Chan, W.I., Cheung, M., Cheng, Y.C., Appleby, V.J., Orme, A.T. and Scotting, P.J. 2002. CIC, a member of a novel subfamily of the HMG-box superfamily, is transiently expressed in developing granule neurons. *Brain Res. Mol. Brain Res.* 106: 151-156.
4. Lee, C.J., Chan, W.I. and Scotting, P.J. 2005. CIC, a gene involved in cerebellar development and ErbB signaling, is significantly expressed in medulloblastomas. *J. Neurooncol.* 73: 101-108.
5. Atkey, M.R., Lachance, J.F., Walczak, M., Rebello, T. and Nilson, L.A. 2006. Capicua regulates follicle cell fate in the *Drosophila* ovary through repression of mirror. *Development* 133: 2115-2123.
6. Kawamura-Saito, M., Yamazaki, Y., Kaneko, K., Kawaguchi, N., Kanda, H., Mukai, H., Gotoh, T., Motoi, T., Fukayama, M., Aburatani, H., Takizawa, T. and Nakamura, T. 2006. Fusion between CIC and DUX4 up-regulates PEA3 family genes in Ewing-like sarcomas with t(4;19)(q35;q13) translocation. *Hum. Mol. Genet.* 15: 2125-2137.
7. de las Heras, J.M. and Casanova, J. 2006. Spatially distinct downregulation of Capicua repression and tailless activation by the Torso RTK pathway in the *Drosophila* embryo. *Mech. Dev.* 123: 481-486.
8. Lam, Y.C., Bowman, A.B., Jafar-Nejad, P., Lim, J., Richman, R., Fryer, J.D., Hyun, E.D., Duvick, L.A., Orr, H.T., Botas, J. and Zoghbi, H.Y. 2006. Ataxin-1 interacts with the repressor Capicua in its native complex to cause SCA1 neuropathology. *Cell* 127: 1335-1347.
9. Tseng, A.S., Tapon, N., Kanda, H., Cigizoglu, S., Edelman, L., Pellock, B., White, K. and Hariharan, I.K. 2007. Capicua regulates cell proliferation downstream of the receptor tyrosine kinase/Ras signaling pathway. *Curr. Biol.* 17: 728-733.

CHROMOSOMAL LOCATION

Genetic locus: CIC (human) mapping to 19q13.2; Cic (mouse) mapping to 7 A3.

SOURCE

Capicua (S-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Capicua of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-67529 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-67529 X, 200 µg/0.1 ml.

APPLICATIONS

Capicua (S-14) is recommended for detection of Capicua of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Suitable for use as control antibody for Capicua siRNA (h): sc-62074 and Capicua siRNA (m): sc-62075.

Capicua (S-14) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of Capicua: 164 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.

PROTOCOLS

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