SANTA CRUZ BIOTECHNOLOGY, INC.

PEBP-4 (C-12): sc-87355



BACKGROUND

PEBP-4 (phosphatidylethanolamine-binding protein 4), also known as protein cousin-of-RKIP 1 (CORK1), is a 227 amino acid lysosomal protein that is a member of the RAF kinase inhibitory protein (RKIP) family. Unlike other RKIPs, PEBP-4 forms ternary complexes with Raf-1 and MEK and scaffolds this structure, thus resulting in the inhibition of the Raf-1/MEK/ERK signaling pathway. With preferential expression in muscle, PEBP-4 seems to control myocyte differentiation by modulation of MEK and ERK activity. Overexpression of PEBP-4 inhibits TNF α -induced activation of JNK and PE externalization, while reduced expression by siRNA knockdown results in an increase in TNF α -induced apoptosis. This suggests that PEBP-4 promotes cellular resistance to apoptosis and may be implicated in tumorigenesis.

REFERENCES

- Yeung, K., Seitz, T., Li, S., Janosch, P., McFerran, B., Kaiser, C., Fee, F., Katsanakis, K.D., Rose, D.W., Mischak, H., Sedivy, J.M. and Kolch, W. 1999. Suppression of Raf-1 kinase activity and MAP kinase signalling by RKIP. Nature 401: 173-177.
- Odabaei, G., Chatterjee, D., Jazirehi, A.R., Goodglick, L., Yeung, K. and Bonavida, B. 2004. Raf-1 kinase inhibitor protein: structure, function, regulation of cell signaling, and pivotal role in apoptosis. Adv. Cancer Res. 91: 169-200.
- Wang, X., Li, N., Liu, B., Sun, H., Chen, T., Li, H., Qiu, J., Zhang, L., Wan, T. and Cao, X. 2004. A novel human phosphatidylethanolamine-binding protein resists tumor necrosis factor α-induced apoptosis by inhibiting mitogenactivated protein kinase pathway activation and phosphatidylethanolamine externalization. J. Biol. Chem. 279: 45855-45864.
- Li, P., Wang, X., Li, N., Kong, H., Guo, Z., Liu, S. and Cao, X. 2006. Antiapoptotic hPEBP-4 silencing promotes TRAIL-induced apoptosis of human ovarian cancer cells by activating ERK and JNK pathways. Int. J. Mol. Med. 18: 505-510.
- Zhang, Y., Wang, X., Xiang, Z., Li, H., Qiu, J., Sun, Q., Wan, T., Li, N., Cao, X. and Wang, J. 2007. Promotion of cellular migration and apoptosis resistance by a mouse eye-specific phosphatidylethanolamine-binding protein. Int. J. Mol. Med. 19: 55-63.
- Li, H., Wang, X., Li, N., Qiu, J., Zhang, Y. and Cao, X. 2007. hPEBP4 resists TRAIL-induced apoptosis of human prostate cancer cells by activating Akt and deactivating ERK 1/2 pathways. J. Biol. Chem. 282: 4943-4950.
- 7. Online Mendelian Inheritance in Man, OMIM™. 2008. Johns Hopkins University, Baltimore, MD. MIM Number: 612473. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
- Garcia, R., Grindlay, J., Rath, O., Fee, F. and Kolch, W. 2009. Regulation of human myoblast differentiation by PEBP-4. EMBO Rep. 10: 278-284.

CHROMOSOMAL LOCATION

Genetic locus: PEBP4 (human) mapping to 8p21.3.

RESEARCH USE

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

SOURCE

PEBP-4 (C-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of PEBP-4 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-87355 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PEBP-4 (C-12) is recommended for detection of PEBP-4 of 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 PEBP-4 siRNA (h): sc-77509, PEBP-4 shRNA Plasmid (h): sc-77509-SH and PEBP-4 shRNA (h) Lentiviral Particles: sc-77509-V.

Molecular Weight of PEBP-4: 26 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) Immunofluo-rescence: use donkey anti-goat IgG-FITC: sc-2783 (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, **D0 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 or our catalog for detailed protocols and support products.