SANTA CRUZ BIOTECHNOLOGY, INC.

KLF12 (NQ-C45): sc-134373

BACKGROUND

Krüppel-like factors (KLFs) comprise a family of evolutionarily conserved zinc finger-containing transcription factors with diverse regulatory functions in cell growth, proliferation, differentiation and embryogenesis. Individual members of the Sp1-like/KLF family can function either as activators or repressors, depending on which promoter they bind and which coregulators they interact with. KLF12 (Krüppel-like factor 12), also known as AP2REP or HSPC122, is a 402 amino acid protein that localizes to the nucleus and contains three C_2H_2-type zinc fingers. One of several members of the Sp1 C_2H_2-type zinc-finger protein family, KLF12 binds to a regulatory element in the AP-2α gene promotor and, via this binding, functions as a strong repressor of AP-2α transcription. Two isoforms of KLF12 exist due to alternative splicing events.

REFERENCES

1. Imhof, A., et al. 1999. Transcriptional regulation of the AP-2α promoter by BTEB-1 and AP-2rep, a novel wt-1/Egr-related zinc finger repressor. Mol. Cell. Biol. 19: 194-204.
2. Roth, C., et al. 2000. Genomic structure and DNA binding properties of the human zinc finger transcriptional repressor AP-2rep (KLF12). Genomics 63: 384-390.
3. Zhu, C.H., et al. 2001. Expression of AP-2α in SV40 immortalized human lung fibroblasts is associated with a distinct pattern of cytosine methylation in the AP-2α promoter. Biochim. Biophys. Acta 1519: 85-91.
4. Rozenblum, E., et al. 2002. A genomic map of a 6-Mb region at 13q21-q22 implicated in cancer development: identification and characterization of candidate genes. Hum. Genet. 11: 111-121.
5. Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 607531. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
6. Suda, S., et al. 2006. Postnatal expression of KLF12 in the inner medullary collecting ducts of kidney and its *trans*-activation of UT-A1 urea transporter promoter. Biochem. Biophys. Res. Commun. 344: 246-252.
7. Julià, A., et al. 2008. Genome-wide association study of rheumatoid arthritis in the Spanish population: KLF12 as a risk locus for rheumatoid arthritis susceptibility. Arthritis Rheum. 58: 2275-2286.

CHROMOSOMAL LOCATION

Genetic locus: KLF12 (human) mapping to 13q22.1.

SOURCE

KLF12 (NQ-C45) is a mouse monoclonal antibody raised against recombinant KLF12 protein of human origin.

PRODUCT

Each vial contains 100 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

KLF12 (NQ-C45) is recommended for detection of KLF12 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

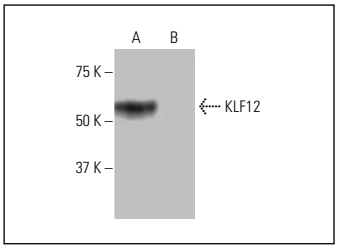
Suitable for use as control antibody for KLF12 siRNA (h): sc-75389, KLF12 shRNA Plasmid (h): sc-75389-SH and KLF12 shRNA (h) Lentiviral Particles: sc-75389-V.

Molecular Weight (predicted) of KLF12: 44 kDa.

Molecular Weight (observed) of KLF12: 50/65 kDa.

Positive Controls: A-431 whole cell lysate: sc-2201 or human KLF12 transfected 293T whole cell lysate.

DATA



KLF12 (NQ-C45): sc-134373. Western blot analysis of KLF12 expression in human KLF12 transfected (**A**) and non-transfected (**B**) 293T whole cell lysates.

SELECT PRODUCT CITATIONS

1. Luo, X., et al. 2020. Long non-coding RNA LINC00239 functions as a competitive endogenous RNA by sponging microRNA-484 and enhancing KLF12 expression to promote the oncogenicity of colorectal cancer. Onco Targets Ther. 13: 12067-12081.
2. Li, Y., et al. 2023. KLF12 promotes the proliferation of breast cancer cells by reducing the transcription of p21 in a p53-dependent and p53-independent manner. Cell Death Dis. 14: 313.
3. Zhang, C.X., et al. 2023. Krüppel-like factor 12 regulates aging ovarian granulosa cell apoptosis by repressing SPHK1 transcription and sphingosine-1-phosphate (S1P) production. J. Biol. Chem. 299: 105126.

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.