

KLF7 (h): 293T Lysate: sc-113805

BACKGROUND

KLF7 (Krüppel-like factor 7) is a transcriptional activator that belongs to the Krüppel C₂H₂-type zinc finger protein family. KLF7 targets promotor regions bearing CACCC elements in order to regulate transcription. It is believed that KLF7 is an important element for regulation of differentiation and the development of nervous systems. Specifically, increased expression of KLF7 is associated with neuronal precursors exiting the cell cycle and beginning to differentiate. Overexpression of KLF7 can lead to cell cycle arrest and a decrease in DNA synthesis. Also, KLF7 is thought to regulate the expression of Trk A, the receptor for nerve growth factor, which is required for the normal growth and maturation of neurons. KLF7 is a widely expressed protein with highest expression found in brain and nervous tissue.

REFERENCES

1. Laub, F., Lei, L., Sumiyoshi, H., Kajimura, D., Dragomir, C., Smaldone, S., Puche, A.C., Petros, T.J., Mason, C., Parada, L.F. and Ramirez, F. 2005. Transcription factor KLF7 is important for neuronal morphogenesis in selected regions of the nervous system. *Mol. Cell. Biol.* 25: 5699-5711.
2. Laub, F., Dragomir, C. and Ramirez, F. 2006. Mice without transcription factor KLF7 provide new insight into olfactory bulb development. *Brain Res.* 1103: 108-113.
3. Kawamura, Y., Tanaka, Y., Kawamori, R. and Maeda, S. 2006. Overexpression of Krüppel-like factor 7 regulates adipocytokine gene expressions in human adipocytes and inhibits glucose-induced Insulin secretion in pancreatic β -cell line. *Mol. Endocrinol.* 20: 844-856.
4. Smaldone, S. and Ramirez, F. 2006. Multiple pathways regulate intracellular shuttling of MoKA, a co-activator of transcription factor KLF7. *Nucleic Acids Res.* 34: 5060-5068.
5. Kingsbury, T.J. and Krueger, B.K. 2007. Ca²⁺, CREB and Krüppel: a novel KLF7-binding element conserved in mouse and human Trk B promoters is required for CREB-dependent transcription. *Mol. Cell. Neurosci.* 35: 447-455.
6. Cho, S.Y., Park, P.J., Shin, H.J., Kim, Y.K., Shin, D.W., Shin, E.S., Lee, H.H., Lee, B.G., Baik, J.H. and Lee, T.R. 2007. (-)-Catechin suppresses expression of Krüppel-like factor 7 and increases expression and secretion of adiponectin protein in 3T3-L1 cells. *Am. J. Physiol. Endocrinol. Metab.* 292: E1166-E1172.
7. Kajimura, D., Dragomir, C., Ramirez, F. and Laub, F. 2007. Identification of genes regulated by transcription factor KLF7 in differentiating olfactory sensory neurons. *Gene* 388: 34-42.
8. Yang, H.W., Xia, T., Chen, Z.L., Feng, S.Q., Peng, Y., Zhou, L., Gan, L. and Yang, Z.Q. 2007. Cloning, chromosomal localization and expression patterns of porcine Krüppel-like factors -4, -5, -7 and the early growth response factor 2. *Biotechnol. Lett.* 29: 157-163.

CHROMOSOMAL LOCATION

Genetic locus: KLF7 (human) mapping to 2q33.3.

RESEARCH USE

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

PRODUCT

KLF7 (h): 293T Lysate represents a lysate of human KLF7 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

KLF7 (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive KLF7 antibodies. Recommended use: 10-20 μ l per lane.

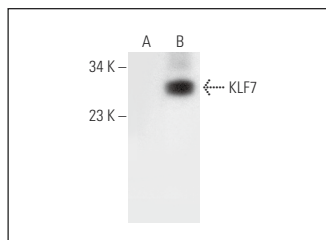
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

KLF7 (83-RT): sc-101034 is recommended as a positive control antibody for Western Blot analysis of enhanced human KLF7 expression in KLF7 transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

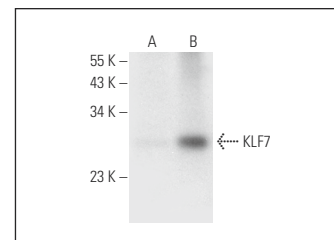
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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.

DATA



KLF7 (83-RT): sc-101034. Western blot analysis of KLF7 expression in non-transfected: sc-117752 (A) and human KLF7 transfected: sc-113805 (B) 293T whole cell lysates.



KLF7 (B-8): sc-398576. Western blot analysis of KLF7 expression in non-transfected: sc-117752 (A) and human KLF7 transfected: sc-113805 (B) 293T whole cell lysates.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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