SANTA CRUZ BIOTECHNOLOGY, INC.

# KLF7 (83-RT): sc-101034

SANTA CRUZ BIOTECHNOLOGY

*The Power to Question*

## BACKGROUND

KLF7 (Krüppel-like factor 7) is a transcriptional activator that belongs to the Krüppel $C_2H_2$-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., et al. 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., et al. 2006. Mice without transcription factor KLF7 provide new insight into olfactory bulb development. Brain Res. 1103: 108-113.
3. Kawamura, Y., et al. 2006. Overexpression of Krüppel-like factor 7 regulates adipocytokine gene expressions in human adipocytes and inhibits glucose-induced Insulin secretion in pancreatic B cell line. Mol. Endocrinol. 20: 844-856.
4. Smaldone, S., et al. 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., et al. 2007. $Ca^{2+}$, 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., et al. 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., et al. 2007. Identification of genes regulated by transcription factor KLF7 in differentiating olfactory sensory neurons. Gene 388: 34-42.
8. Yang, H.W., et al. 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; Klf7 (mouse) mapping to 1 C2.

## SOURCE

KLF7 (83-RT) is a mouse monoclonal antibody raised against recombinant KLF7 of human origin.

## PRODUCT

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

## APPLICATIONS

KLF7 (83-RT) is recommended for detection of KLF7 of mouse, rat and 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 KLF7 siRNA (h): sc-106721, KLF7 siRNA (m): sc-146499, KLF7 shRNA Plasmid (h): sc-106721-SH, KLF7 shRNA Plasmid (m): sc-146499-SH, KLF7 shRNA (h) Lentiviral Particles: sc-106721-V and KLF7 shRNA (m) Lentiviral Particles: sc-146499-V.

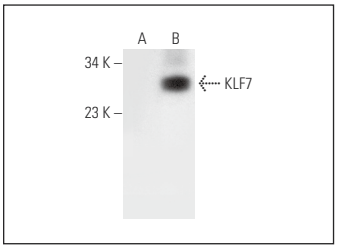
Molecular Weight of KLF7: 38 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203 or KLF7 (h): 293T Lysate: sc-113805.

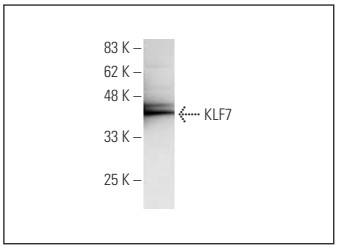
## RECOMMENDED SUPPORT REAGENTS

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).

## 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 (83-RT): sc-101034. Western blot analysis of KLF7 expression in K-562 whole cell lysate.

## SELECT PRODUCT CITATIONS


1. De Donato, M., et al. 2020. KLF7: a new candidate biomarker and therapeutic target for high-grade serous ovarian cancer. J. Exp. Clin. Cancer Res. 39: 265.
2. Li, W.Y., et al. 2022. Krüppel-like factor 7 attenuates hippocampal neuronal injury after traumatic brain injury. Neural Regen. Res. 17: 661-672.


## 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.