

KLK10 (I-06): sc-100551

BACKGROUND

Kallikreins (KLKs) belong to the serine protease family of proteolytic enzymes. Human pancreatic/renal KLK encodes for the KLK1 enzyme, which is involved in post translational processing of polypeptide precursors. The function of the other members of KLK gene family is currently unknown, but evidence suggests that many KLKs are implicated in carcinogenesis. The human KLK gene family consists of 15 serine proteases. The human KLK genes are clustered on chromosome 19q13. Unlike other kallikreins, the KLK4-15 encoded proteases are less related and do not contain a conventional KLK loop. Clusters of genes exhibit high prostatic (KLK2-4, KLK15) or pancreatic (KLK6-13) expression. KLK2 is also known as glandular kallikrein 2, tissue kallikrein or HGK-1, and KLK3 is known as prostate-specific antigen (PSA). Both KLK2 and KLK3 have important applications in prostate cancer and breast cancer diagnostics. KLK4, KLK5, KLK9, KLK13, KLK12 and KLK14 have been previously known as KLK-L1, KLK-L2, KLK-L3, KLK-L4, KLK-L5 and KLK-L6, respectively. Many of the KLKs are regulated by steroid hormones and a few of them, specifically KLK3, KLK6 and KLK10, are known to be downregulated in breast and other cancers.

REFERENCES

1. Yousef, G.M., et al. 2000. Genomic organization of the human kallikrein gene family on chromosome 19q13.3-q13.4. *Biochem. Biophys. Res. Commun.* 276: 125-133.
2. Diamandis, E.P., et al. 2000. The new human kallikrein gene family: implications in carcinogenesis. *Trends Endocrinol. Metab.* 11: 54-60.

CHROMOSOMAL LOCATION

Genetic locus: KLK10 (human) mapping to 19q13.41.

SOURCE

KLK10 (I-06) is a mouse monoclonal antibody raised against recombinant KLK10 of human origin.

PRODUCT

Each vial contains 50 µg IgG₁ lambda light chain in 0.5 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

KLK10 (I-06) is recommended for detection of KLK10 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)], 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 KLK10 siRNA (h): sc-41538, KLK10 shRNA Plasmid (h): sc-41538-SH and KLK10 shRNA (h) Lentiviral Particles: sc-41538-V.

Molecular Weight of KLK10: 30 kDa.

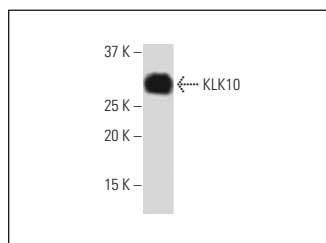
Positive Controls: Jurkat whole cell lysate: sc-2204 or A-431 whole cell lysate: sc-2201.

RECOMMENDED SUPPORT REAGENTS

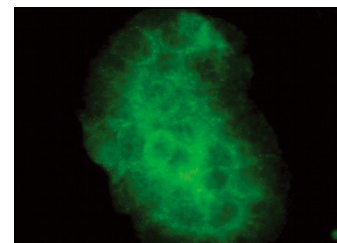
To ensure optimal results, the following support reagents are recommended:

- 1) Western Blotting: use m-IgG λ BP-HRP: sc-516132 or m-IgG λ BP-HRP (Cruz Marker): sc-516132-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).
- 3) Immunofluorescence: use m-IgG λ BP-FITC: sc-516185 or m-IgG λ BP-PE: sc-516186 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



KLK10 (I-06): sc-100551. Western blot analysis of KLK10 expression in A-431 whole cell lysate.



KLK10 (I-06): sc-100551. Immunofluorescence staining of paraformaldehyde-fixed A-431 cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Nasim, F.U., et al. 2016. Indirect back-titration ELISA: a new format for estimation of human tissue kallikreins. *Appl. Immunohistochem. Mol. Morphol.* 24: 64-70.
2. Lin, C.L., et al. 2020. Transcriptional suppression of miR-7 by MTA2 induces Sp1-mediated KLK10 expression and metastasis of cervical cancer. *Mol. Ther. Nucleic Acids* 20: 699-710.
3. Wei, H., et al. 2020. Kallikrein-related peptidase (KLK10) cessation blunts colorectal cancer cell growth and glucose metabolism by regulating the PI3K/Akt/mTOR pathway. *Neoplasia* 67: 889-897.
4. Zheng, K., et al. 2023. IGF1R-phosphorylated PYCR1 facilitates ELK4 transcriptional activity and sustains tumor growth under hypoxia. *Nat. Commun.* 14: 6117.

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 for detailed protocols and support products.