SANTA CRUZ BIOTECHNOLOGY, INC.

KLK6 (D-1): sc-374564

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 kalllikreins, 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.
3. Shimizu-Okabe, C., et al. 2001. Expression of the kallikrein gene family in normal and Alzheimer's disease. Neuroreport 12: 27447-27451.

CHROMOSOMAL LOCATION

Genetic locus: KLK6 (human) mapping to 19q13.41.

SOURCE

KLK6 (D-1) is a mouse monoclonal antibody raised against amino acids 111-170 of KLK6 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

KLK6 (D-1) is available conjugated to agarose (sc-374564 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374564 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374564 PE), fluorescein (sc-374564 FITC), Alexa Fluor® 488 (sc-374564 AF488), Alexa Fluor® 546 (sc-374564 AF546), Alexa Fluor® 594 (sc-374564 AF594) or Alexa Fluor® 647 (sc-374564 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-374564 AF680) or Alexa Fluor® 790 (sc-374564 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

RESEARCH USE

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

APPLICATIONS

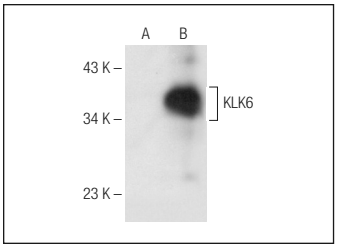
KLK6 (D-1) is recommended for detection of KLK6 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 KLK6 siRNA (h): sc-41532, KLK6 shRNA Plasmid (h): sc-41532-SH and KLK6 shRNA (h) Lentiviral Particles: sc-41532-V.

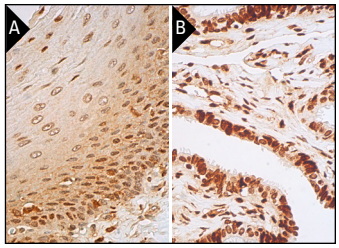
Molecular Weight of KLK6: 30 kDa.

Positive Controls: KLK6 (h3): 293T Lysate: sc-158665 or MCF7 whole cell lysate: sc-2206.

DATA



KLK6 (D-1): sc-374564. Western blot analysis of KLK6 expression in non-transfected: sc-117752 (**A**) and human KLK6 transfected: sc-158665 (**B**) 293T whole cell lysates.



KLK6 (D-1): sc-374564. Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing nuclear and cytoplasmic staining of squamous epithelial cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human fallopian tube tissue showing nuclear staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Wang, T., et al. 2017. TGF-β induced PAR-1 expression promotes tumor progression and osteoclast differentiation in giant cell tumor of bone. Int. J. Cancer 141: 1630-1642.
2. Song, J., et al. 2018. Let-7i-5p inhibits the proliferation and metastasis of colon cancer cells by targeting kallikrein-related peptidase 6. Oncol. Rep. 40: 1459-1466.
3. Kodaira, H., et al. 2019. ANXA10 induction by interaction with tumor-associated macrophages promotes the growth of esophageal squamous cell carcinoma. Pathol. Int. 69: 135-147.
4. Morretta, E., et al. 2022. Label-free quantitative proteomics to explore the action mechanism of the pharmaceutical-grade *Triticum vulgare* extract in speeding up keratinocyte healing. Molecules 27: 1108.
5. Zhao, K., et al. 2022. KLK6 functions as an oncogene and unfavorable prognostic factor in bladder urothelial carcinoma. Dis. Markers 2022: 3373851.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.