SANTA CRUZ BIOTECHNOLOGY, INC.

KLK5 (H-55): sc-20623

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 still 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. Diamandis, E.P., et al. 2000. The new human kallikrein gene family: implications in carcinogenesis. Trends Endocrinol. Metab. 11: 54-60.
2. 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.
3. Shimizu-Okabe, C., et al. 2001. Expression of the kallikrein gene family in normal and Alzheimer's disease. Neuroreport 12: 27447-27451.
4. Yousef, G.M., et al. 2001. Cloning of a new member of the human kallikrein gene family, KLK14, which is down regulated in different malignancies. Cancer Res. 61: 3425-3431.
5. Clements, J., et al. 2001. The expanded human kallikrein (KLK) gene family: genomic organization, tissue-specific expression and potential functions. Biol. Chem. 382: 5-14.

CHROMOSOMAL LOCATION

Genetic locus: KLK5 (human) mapping to 19q13.33.

SOURCE

KLK5 (H-55) is a rabbit polyclonal antibody raised against amino acids 23-77 of KLK5 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

APPLICATIONS

KLK5 (H-55) is recommended for detection of KLK5 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 KLK5 siRNA (h): sc-35758, KLK5 shRNA Plasmid (h): sc-35758-SH and KLK5 shRNA (h) Lentiviral Particles: sc-35758-V.

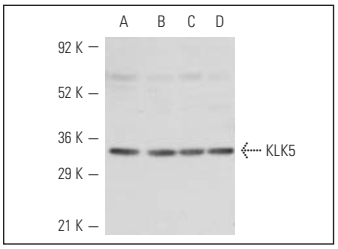
Molecular Weight of KLK5: 33 kDa.

Positive Controls: A-375 cell lysate: sc-3811, MCF7 whole cell lysate: sc-2206 or SK-MEL-28 cell lysate: sc-2236.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



KLK5 (H-55): sc-20623. Western blot analysis of KLK5 expression in A-375 (**A**), MCF7 (**B**), SK-MEL-28 (**C**) and CCD1064Sk (**D**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Ishida-Yamamoto, A., et al. 2005. LEKTI is localized in lamellar granules, separated from KLK5 and KLK7, and is secreted in the extracellular spaces of the superficial stratum granulosum. J. Invest. Dermatol. 124: 360-366.
2. Thomas, A.C., et al. 2009. Premature terminal differentiation and a reduction in specific proteases associated with loss of ABCA12 in Harlequin ichthyosis. Am. J. Pathol. 174: 970-978.

RESEARCH USE

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