SANTA CRUZ BIOTECHNOLOGY, INC.

Kininogen HC (2B5): sc-23914

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Kininogen is a 644 amino acid precursor protein that is expressed by the KNG1 gene and is secreted into blood plasma. Due to alternative splicing events, several Kininogen protein derivatives exist, including Kininogen LC (light chain) and Kininogen HC (heavy chain), both of which are produced from the Kininogen precursor and exhibit different functions throughout the cell. Kininogen HC plays an important role in blood coagulation by helping to ensure that prekallikrein and Factor XI (both of which are involved in blood coagulation) are properly situated for interaction with Factor XII. Additionally, Kininogen HC releases a smaller, active protein known as bradykinin, which plays a role in smooth muscle contraction, induction of hypotension, regulation of blood glucose levels, stimulation of nociceptors and overall mediation of inflammatory responses throughout the cell. In contrast to Kininogen HC, which is involved in blood clotting, Kininogen LC is primarily associated with inhibition of thrombocyte aggregation and also functions as a strong inhibitor of cysteine proteinases.

REFERENCES

1. Kato, H., et al. 1979. Role of bovine high-molecular-weight (HMW) Kininogen in contact-mediated activation of bovine Factor XII. Adv. Exp. Med. Biol. 120B: 19-37.
2. Kaplan, A.P. 1979. The role of high molecular weight Kininogen in contact activation of coagulation, fibrinolysis and kinin generation. Adv. Exp. Med. Biol. 120B: 71-91.
3. Mills, I.H. 1979. Kallikrein, Kininogen and kinins in control of blood pressure. Nephron 23: 61-71.

CHROMOSOMAL LOCATION

Genetic locus: KNG1 (human) mapping to 3q27.3; Kng2 (mouse) mapping to 16 B1.

SOURCE

Kininogen HC (2B5) is a mouse monoclonal antibody raised against purified high molecular weight Kininogen (HMWK) 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.

Kininogen HC (2B5) is available conjugated to agarose (sc-23914 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-23914 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-23914 PE), fluorescein (sc-23914 FITC), Alexa Fluor® 488 (sc-23914 AF488), Alexa Fluor® 546 (sc-23914 AF546), Alexa Fluor® 594 (sc-23914 AF594) or Alexa Fluor® 647 (sc-23914 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-23914 AF680) or Alexa Fluor® 790 (sc-23914 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

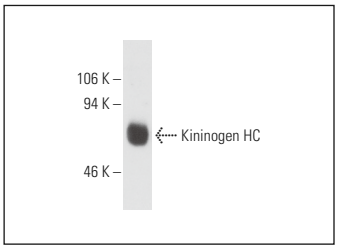
Kininogen HC (2B5) is recommended for detection of common heavy chain of HMWK of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for Kininogen siRNA (h): sc-40723, Kininogen siRNA (m): sc-39326, Kininogen shRNA Plasmid (h): sc-40723-SH, Kininogen shRNA Plasmid (m): sc-39326-SH, Kininogen shRNA (h) Lentiviral Particles: sc-40723-V and Kininogen shRNA (m) Lentiviral Particles: sc-39326-V.

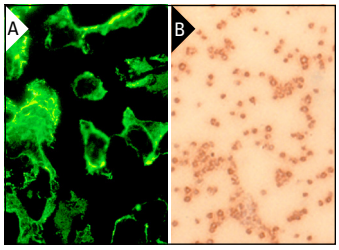
Molecular Weight of Kininogen HC: 64 kDa.

Molecular Weight of Kininogen LC: 53 kDa.

DATA



Kininogen HC (2B5): sc-23914. Western blot analysis of purified human Kininogen.



Kininogen HC (2B5): sc-23914. Immunofluorescence staining of methanol-fixed ECV304 cells showing cell surface localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human platelets showing membrane localization (**B**).

SELECT PRODUCT CITATIONS

1. Mavrou, A., et al. 2008. Proteomic analysis of amniotic fluid in pregnancies with Turner syndrome fetuses. J. Proteome Res. 7: 1862-1866.
2. Kolialexi, A., et al. 2010. Potential biomarkers for Turner in maternal plasma: possibility for noninvasive prenatal diagnosis. J. Proteome Res. 9: 5164-5170.
3. Kita, T., et al. 2015. Plasma kallikrein-kinin system as a VEGF-independent mediator of diabetic macular edema. Diabetes 64: 3588-3599.
4. Phan, Q.T., et al. 2022. Serum bridging molecules drive candidal invasion of human but not mouse endothelial cells. PLoS Pathog. 18: e1010681.
5. Zhang, Y., et al. 2024. Factor XII and prekallikrein promote microvascular inflammation and psoriasis in mice. Br. J. Pharmacol. 181: 3760-3778.

STORAGE

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