

Ig κ chain (L1C1): sc-59265

BACKGROUND

Antibody producing cells of the immune system require multiple rearrangements of immunoglobulin (antibody, Ig) genes. Immunoglobulins are four-chain, Y-shaped, monomeric structures of two identical heavy chains and two identical light chains held together through interchain disulfide bonds. Immunoglobulins in vertebrates help to remove non-self molecules or cells (antigens) by recognizing and binding to the antigen and carrying out effector functions that activate the immune system. Variable genetic combinations of the five heavy chain classes (M, D, G, E and A) and the two light chain isotypes, κ and λ , confer the role of an antibody. The variable region genes encoding immunoglobulin κ and λ chains are assembled from three DNA segments, the V, C and J genes. Human κ light chain genes map to chromosome 2 and the human λ light chain genes map to chromosome 22. κ gene recombination can precede λ gene recombination during B cell ontogeny and only a single light chain type is expressed in individual B cells. Antibodies in camels and sharks can lack light chains, suggesting that light chains may not be essential for antigen binding in some vertebrates.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: IGKC (human) mapping to 2p25.3.

SOURCE

Ig κ chain (L1C1) is a mouse monoclonal antibody raised against B lymphoma cells of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Ig κ chain (L1C1) is available conjugated to agarose (sc-59265 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-59265 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-59265 PE), fluorescein (sc-59265 FITC), Alexa Fluor[®] 488 (sc-59265 AF488), Alexa Fluor[®] 546 (sc-59265 AF546), Alexa Fluor[®] 594 (sc-59265 AF594) or Alexa Fluor[®] 647 (sc-59265 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-59265 AF680) or Alexa Fluor[®] 790 (sc-59265 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

Ig κ chain (L1C1) is recommended for detection of Ig κ chain of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and flow cytometry (1 μ g per 1×10^6 cells).

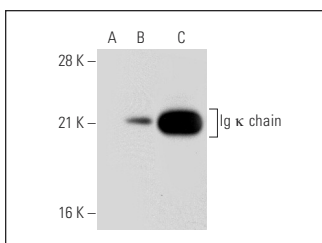
Molecular Weight of Ig κ chain: 28 kDa.

Positive Controls: Ig κ chain (h3): 293T Lysate: sc-117325, GA-10 whole cell lysate: sc-364230 or Raji whole cell lysate: sc-364236.

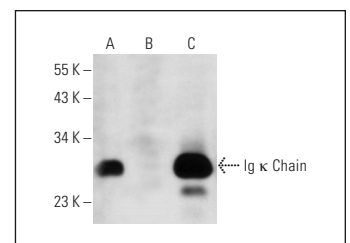
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ 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



Ig κ chain (L1C1): sc-59265. Western blot analysis of Ig κ chain expression in non-transfected 293T: sc-117752 (A), human Ig κ chain transfected 293T: sc-117325 (B) and human PBL (C) whole cell lysates.



Ig κ Chain (L1C1): sc-59265. Western blot analysis of Ig κ Chain expression in Raji (A), NAMALWA (B) and GA-10 (C) whole cell lysates.

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.