

Ig κ chain (H-225): sc-33132

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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- Dyer, M.J., et al. 1981. Committed T lymphocyte stem cells of rats. Characterization by surface W3/13 antigen and radiosensitivity. *J. Exp. Med.* 154: 1164-1177.
- Hieter, P.A., et al. 1982. Evolution of human immunoglobulin κ J region genes. *J. Biol. Chem.* 257: 1516-1522.
- Durdik, J., et al. 1984. Novel κ light chain gene rearrangements in mouse λ light chain-producing B lymphocytes. *Nature* 307: 749-752.
- Horejsi, V., et al. 1986. Monoclonal antibodies against human leukocyte antigens. I. Antibodies against β -2-Microglobulin, immunoglobulin κ light chains, HLA-DR-like antigens, T8 antigen, T1 antigen, a monocyte antigen, and a pan-leukocyte antigen. *Folia Biol. (Praha)* 32: 12-25.

CHROMOSOMAL LOCATION

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

SOURCE

Ig κ chain (H-225) is a rabbit polyclonal antibody raised against amino acids 8-232 mapping within an internal region of Ig κ chain of human origin.

PRODUCT

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

APPLICATIONS

Ig κ chain (H-225) 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)], 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).

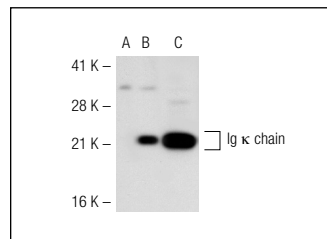
Molecular Weight of Ig κ chain: 28 kDa.

Positive Controls: Ig κ chain (h): 293T Lysate: sc-111799, human PBL whole cell lysates or NAMALWA cell lysate: sc-2234.

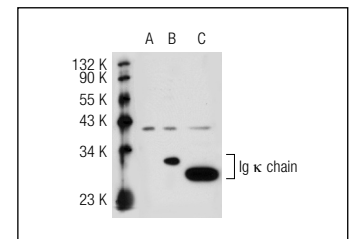
RECOMMENDED SECONDARY REAGENTS

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



Ig κ chain (H-225): sc-33132. Western blot analysis of Ig κ chain expression in non-transfected 293T: sc-117752 (A), human Ig κ chain transfected 293T: sc-112475 (B) and human PBL (C) whole cell lysates.



Ig κ chain (H-225): sc-33132. Western blot analysis of Ig κ chain expression in non-transfected 293T: sc-117752 (A), human Ig κ chain transfected 293T: sc-111799 (B) and human PBL (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.

MONOS
Satisfaction
Guaranteed

Try **Ig κ chain (L1C1): sc-59265**, our highly recommended monoclonal alternative to Ig κ chain (H-225).