

Ig J chain (B-6): sc-271967

BACKGROUND

The regions of relatively constant sequence beyond the variable regions of immunoglobulin are termed constant regions (C regions) and are present in both the heavy and light chains. With few exceptions, the sites of attachment for carbohydrates to immunoglobulin are located in the constant region. The constant regions also serve to hold the variable regions on both heavy and light chain together by virtue of the disulfide bond between them. The immunoglobulin J chain (Ig J chain) is a linker protein for two monomer units of either immunoglobulin α (IgA) or μ (IgM) polypeptides. For IgA the J chain-dimer induces larger polymers whereas for the IgM pentamer it functions as a nucleating unit. The Ig J chain is also important in binding these immuno-globulins to secretory components.

REFERENCES

1. Yagi, M., et al. 1982. J chain is encoded by a single gene unlinked to other immunoglobulin structural genes. *J. Exp. Med.* 155: 647-654.
2. Cann, G.M., et al. 1982. Primary structure of the immunoglobulin J chain from the mouse. *Proc. Natl. Acad. Sci. USA* 79: 6656-6660.
3. Zikan, J., et al. 1985. Secondary structure of the immunoglobulin J chain. *Proc. Natl. Acad. Sci. USA* 82: 5905-5909.
4. Matsuuchi, L., et al. 1986. Immunoglobulin J chain gene from the mouse. *Proc. Natl. Acad. Sci. USA* 83: 456-460.
5. Bastian, A., et al. 1992. Intra- and interchain disulfide bridges of the human J chain in secretory immunoglobulin A. *Biol. Chem. Hoppe Seyler* 373: 1255-1263.

CHROMOSOMAL LOCATION

Genetic locus: JCHAIN (human) mapping to 4q13.3; Jchain (mouse) mapping to 5 E1.

SOURCE

Ig J chain (B-6) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 33-71 within an internal region of Ig J chain of human origin.

PRODUCT

Each vial contains 200 μ g IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Ig J chain (B-6) is available conjugated to agarose (sc-271967 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271967 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271967 PE), fluorescein (sc-271967 FITC), Alexa Fluor® 488 (sc-271967 AF488), Alexa Fluor® 546 (sc-271967 AF546), Alexa Fluor® 594 (sc-271967 AF594) or Alexa Fluor® 647 (sc-271967 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271967 AF680) or Alexa Fluor® 790 (sc-271967 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-271967 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

Ig J chain (B-6) is recommended for detection of Ig J chain of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

Suitable for use as control antibody for Ig J chain siRNA (h): sc-45773, Ig J chain siRNA (m): sc-45774, Ig J chain shRNA Plasmid (h): sc-45773-SH, Ig J chain shRNA Plasmid (m): sc-45774-SH, Ig J chain shRNA (h) Lentiviral Particles: sc-45773-V and Ig J chain shRNA (m) Lentiviral Particles: sc-45774-V.

Molecular Weight (predicted) of Ig J chain: 18 kDa.

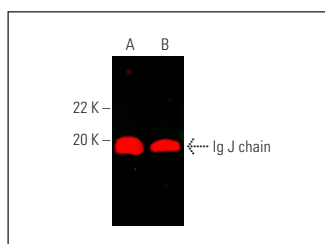
Molecular Weight (observed) of Ig J chain: 18-26 kDa.

Positive Controls: human liver extract: sc-363766, rat liver extract: sc-2395 or mouse liver extract: sc-2256.

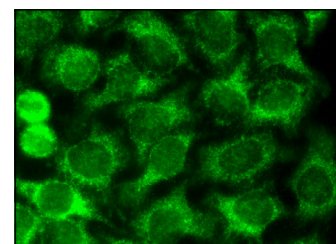
RECOMMENDED SUPPORT REAGENTS

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). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



Ig J chain (B-6): sc-271967. Near-infrared western blot analysis of Ig J chain expression in human liver (A) and rat liver (B) tissue extracts. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgG κ BP-CFL 790: sc-516181.



Ig J chain (B-6): sc-271967. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization.

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.

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