

IgM (SA-DA4): sc-69822

BACKGROUND

Immunoglobulin M (IgM) is the largest circulating antibody molecule in humans. It consists of a heavy chain (μ -chain) and a light chain (κ - or λ -chain), as well as 5 base units and 10 binding sites, though it cannot bind all 10 simultaneously because of steric hindrance. IgM chain C refers to the constant region of the IgM heavy chain that is involved in immune regulation. IgM forms polymers by covalently linking multiple immunoglobulins together with disulfide bonds. It normally exists as a pentamer, but occasionally as a hexamer. Because of its polymeric nature, IgM has high avidity, and it is especially effective at complement activation. Due to its large size, IgM does not diffuse well, and it is found in the interstitium in very low amounts. IgM is mainly found in serum; however, because of the J chain, it is also important as a secretory immunoglobulin. IgM is the first immunoglobulin expressed by mature B cells, and it normally appears early in the course of an infection and does not reappear after further exposure.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: IGHM (human) mapping to 14q32.33.

SOURCE

IgM (SA-DA4) is a mouse monoclonal antibody raised against IgM heavy chain of human origin.

STORAGE

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

PRODUCT

Each vial contains 200 μ g IgG₁ in 1.0 mL PBS with < 0.1% sodium azide and 0.1% gelatin.

Available as phycoerythrin (sc-69822 PE) or fluorescein (sc-69822 FITC) conjugates for flow cytometry, 100 tests.

APPLICATIONS

IgM (SA-DA4) is recommended for detection of IgM heavy 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 flow cytometry (1 μ g per 1 x 10⁶ cells).

Molecular Weight of IgM heavy (μ) chain: 76-92 kDa.

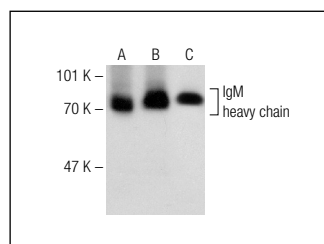
Molecular Weight of IgM light (κ/λ) chain: 25-30 kDa.

Positive Controls: U-698-M cell lysate, NAMALWA cell lysate: sc-2234 or Ramos cell lysate: sc-2216.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (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-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



IgM (SA-DA4): sc-69822. Western blot analysis of IgM expression in U-698-M (A), Ramos (B) and BJAB (C) whole cell lysates.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.