

IgM (A-15): sc-34667

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 five base units and ten binding sites, though it cannot bind all ten 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

1. Liu, C.P., et al. 1980. Mapping of heavy chain genes for mouse immunoglobulins M and D. *Science* 209: 1348-1353.
2. Marchalonis, J.J. and Wang, A.C. 1981. A marmoset T-lymphocyte protein related to defined human serum immunoglobulin and fragments. *J. Immunogenet.* 8: 165-175.
3. Richards, J.E., et al. 1983. Unusual sequences in the murine immunoglobulin μ - δ heavy-chain region. *Nature* 306: 483-487.
4. Dahan, A., et al. 1983. Nucleotide sequence of the constant region of a chicken μ heavy chain immunoglobulin mRNA. *Nucleic Acids Res.* 11: 5381-5389.

CHROMOSOMAL LOCATION

Genetic locus: IGHM (human) mapping to 14p13.

SOURCE

IgM (A-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of IgM 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.

Blocking peptide available for competition studies, sc-34667 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

PROTOCOLS

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

APPLICATIONS

IgM (A-15) is recommended for detection of IgM 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).

IgM (A-15) is also recommended for detection of IgM in additional species, including canine.

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

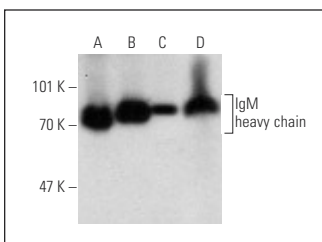
Molecular Weight of IgM heavy μ chain: 76-92 kDa.

Positive Controls: NAMALWA cell lysate: sc-2234, Ramos cell lysate: sc-2216 or U-698-M whole cell lysate: sc-364799.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



IgM (A-15): sc-34667. Western blot analysis of IgM expression in U-698-M (A), Ramos (B), BJAB (C) and NAMALWA (D) whole cell lysates.

RESEARCH USE

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

MONOS
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Try **IgM (R1/69): sc-53347** or **IgM (G-12): sc-376317**, our highly recommended monoclonal alternatives to IgM (A-15). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **IgM (R1/69): sc-53347**