SANTA CRUZ BIOTECHNOLOGY, INC.

IgM (F-15): sc-34669

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., Tucker, P.W., Mushinski, J.F. and Blattner, F.R. 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. Dahan, A., Reynaud C.A. and Weill, J.C. 1983. Nucleotide sequence of the constant region of a chicken μ heavy chain immunoglobulin mRNA. Nucleic Acids Res. 11: 5381-5389.
4. Richards, J.E., Gilliam, A.C., Shen, A., Tucker, P.W. and Blattner, F.R. 1983. Unusual sequences in the murine immunoglobulin μ-δ heavy-chain region. Nature 306: 483-487.

CHROMOSOMAL LOCATION

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

SOURCE

IgM (F-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of IgM of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-34669 P, (100 µg 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.

RESEARCH USE

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

APPLICATIONS

IgM (F-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 µg per 100-500 µg 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).

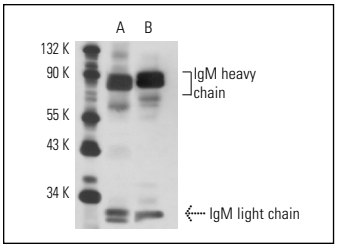
Molecular Weight of IgM heavy μ chain: 76-92 kDa.

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

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).

DATA



IgM (F-15): sc-34669. Western blot analysis of IgM expression in U-698-M (**A**) and Ramos (**B**) whole cell lysates.

PROTOCOLS

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

MONOS Satisfaction Guaranteed

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