MONOCLONAL ANTIBODY TO
RAT C5B-9
clone 2A1

Catalog no
HM3033 (lot number and expiry date are indicated on the label)

Description
The monoclonal antibody 2A1 recognizes rat C5b-9. The antibody was shown to compete with antibodies to human C9 for its binding site on the C5b-9 complex, indicating that the reactive epitope is located on the C9 molecule. C5b-9 membrane attack complexes are assembled from five precursor molecules in the serum. Proteolytic cleavage of C5 by C5 convertase generates C5b which initiates assembly of the C5b-9 complex. The last step of C5b-9 complex formation involves polymerization of C9 which accompanies insertion of the complex into the cell membrane. During formation of C5b-8 and C9 polymerization, neoantigens are generated which are unique to the C5b-9 complex and are not present on any of the individual native complex components. The complement regulatory proteins CD59 and complement S-protein can both prevent C5b-9 insertion into the cell membrane. The formed SC5b-9 complex is unable to attach to cells and is cytolytically inactive. C5b-9 is involved in the progression of chronic proteinuric renal disease by mediating continuous tubulointerstitial damage. Early tubulointerstitial injury in the remnant kidney can be improved when C5b-9 complex forming is abrogated.

The monoclonal antibody 2A1 was raised against a rat C5b-9 neoantigen. Monoclonal antibody 2A1 can be used as a coating antibody to detect C5b-9 in plasma and urine samples.

Aliases
membrane attack complex, MAC

Immunogen
rat C5b-9

Species
Mouse IgG1

Formulation
1 ml (100 µg/ml) 0.2 µm filtered antibody solution in PBS, containing 0.1% bovine serum albumin and 0.02% sodium azide.

Application

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<th>IF1,5</th>
<th>IP</th>
<th>P8</th>
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N.D. = Not Determined; F = Frozen sections; FC = Flow Cytometry; FS = Functional Studies; IA = Immuno Assays; IF = Immuno Fluorescence; IP = Immuno Precipitation; P = Paraffin sections; W = Western blot

Application notes
IA: plates were coated with 30µg/ml in 50mM carbonatebuffer, pH10.6 for 16h at 4°C (Ref.1)
W: A non-reduced sample treatment and SDS-Page was used. The band size is >200 kDa (Ref.1).
IHC-P: Tissue sections fixed in formalin were pretreated with protease type XXIV for 10 minutes at 37°C before incubation with mAb 2A1 (Ref.6).
IHC-F: Tissue sections were fixed in acetone for 10 minutes at room temperature before incubation with mAb 2A1 (Ref.3).

References
4. Duijvestijn, A. Complement activation by anti-endothelial cell antibodies in MHC-mismatched and MHC-matched heart allograft rejection: anti-MHC, but not anti non-MHC alloantibodies are effective in complement activation. Transpl. Int. 2000, 13:363
Use
For immunohistochemistry and Western blotting, dilutions to be used depend on detection system applied. It is recommended that users test the reagent and determine their own optimal dilutions. The typical starting working dilution is 1:50.

Positive control
Glomeruli of rats treated with anti-Thy-1.1 antibodies

Negative control
Glomeruli of C6 deficient rats

Storage and stability
Product should be stored at 4°C. Under recommended storage conditions, product is stable for at least one year. The exact expiry date is indicated on the label.

Precautions
For research use only. Not for use in or on humans or animals or for diagnostics. It is the responsibility of the user to comply with all local/state and federal rules in the use of this product. Hycult Biotech is not responsible for any patent infringements that might result from the use or derivation of this product.

Also available
HM3032  Monoclonal antibody against rat Crry, clone TLD-1C11
HM3034  Monoclonal antibody against rat C6, clone 3G11
HP8021  Polyclonal antibody against rat C1q
HP8022  Polyclonal antibody against rat C3
HP8023  Polyclonal antibody against rat C4