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Datasheet for 103-4139

Chicken Red Blood Cell RBC Antibody

Overview

Description:	Anti-Chicken Red Blood Cell (RBC) (RABBIT) Antibody - 103-4139
Item No.:	103-4139
Size:	2 mL
Applications:	Agglutination, Biochemical Assay, IF, IHC, Multiplex
Host Species:	Rabbit

Product Details

Background:	Anti-CHICKEN Red Blood Cell Antibody may be used in hemagglutination assays. Haemagglutination assay or HA is a method of quantification for viruses or bacteria by hemagglutination. Some viral families and many bacteria have envelope or surface proteins which are able to agglutinate (stick to) human or animal red blood cells (RBC) and bind to N-acetylneuraminic acid. As each of the agglutinating molecule attaches to multiple RBCs, a lattice-structure will form. Normally, a virus dilution (e.g. 2-fold from 1:4 to 1:4096) will be applied to an RBC dilution (e.g. 0.1% to 0.7% in steps of 0.2%) for approx. 30 min, often at 4° C, otherwise viruses with neuraminidase activity will detach the virus from the RBCs. Then the lattice forming parts will be counted and the titer calculated. The titer of a hemagglutination assay is determined by the last viable "lattice" structure found. This is because it is at the point where, if diluted anymore, the amount of Virus particles will be less than that of the RBCs and thus not be able to agglutinate them together. Anti-CHICKEN Red Blood Cell Antibody is used to sensitize erythrocytes and quantitate agglutination.
Synonyms:	Anti-RBC antibody, Red Blood Cell Antibody, Antibody for hemagglutination, rabbit anti RBC, rabbit anti-chicken Red Blood Cells (RBC), haemolysin, hemolysin, erythrocytes sensitizing agent
Host Species:	Rabbit
Clonality:	Polyclonal
Format:	Antiserum

Target Details

Immunogen Type:	Other
Immunogen:	Chicken washed pooled Red Blood Cells (RBC)

Purity/Specificity:	This product was prepared from polyspecific antiserum by a delipidation and defibrination.
Relevant Links:	• 103-4139 SDS

Application Details

Tested Applications:	Agglutination
Suggested Applications:	Biochemical Assay, IF, IHC, Multiplex (Based on references)
Application Note:	Tested for agglutination of cells on titer plates. Each laboratory should determine an optimum working titer for use in its particular application. Other applications have not been tested but use in such assays should not necessarily be excluded.
Assay Dilutions:	All assays should be optimized by the user. Recommended dilutions (if any) may be listed below.

Tissue Data

Tissue Type:	Red Blood Cells

Formulation

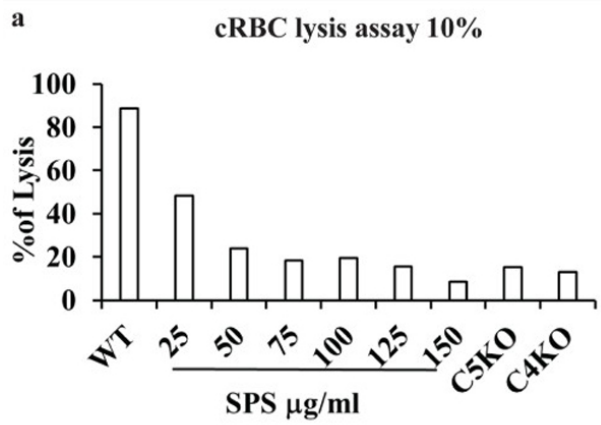
Physical State:	Lyophilized
Concentration:	60 mg/mL by Refractometry
Buffer:	0.02 M Potassium Phosphate, 0.15 M Sodium Chloride, pH 7.2
Sterility:	Non-sterile
Preservative:	0.01% (w/v) Sodium Azide
Stabilizer:	None
Reconstitution Volume:	2.0 mL
Reconstitution Buffer:	Restore with deionized water (or equivalent)

Shipping & Handling

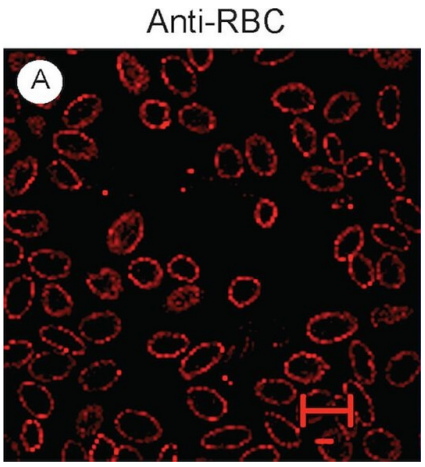
Shipping Condition:	Ambient
Storage Condition:	Store vial at 4° C prior to restoration. For extended storage aliquot contents and freeze at -20° C or below. Avoid cycles of freezing and thawing. Centrifuge product if not completely clear after standing at room temperature. This product is stable for several weeks at 4° C as an undiluted liquid. Dilute only prior to immediate use.

Expiration: Expiration date is one (1) year from date of receipt.

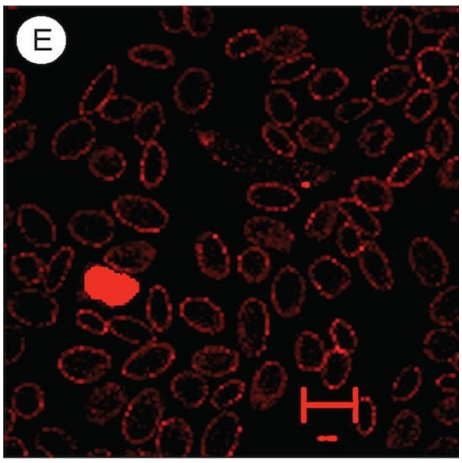
Images



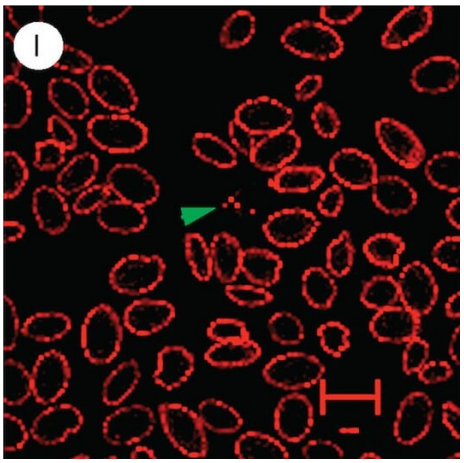
Agglutination
Assessment of lectin and classical pathway complement activity in Masp3−/− mouse plasma.
(a) Sodium polyanethole sulfonate (SPS) dose-dependently inhibited mouse classical pathway complement activity in a chicken red blood cell (cRBC) hemolytic assay. Percentage of cRBC lysis was normalized to a cRBC sample completely lysed by hypotonic shock in double-distilled water. Mouse serum was diluted to 10% and incubated with Ab-sensitized chicken RBCs (p/n R401-0050) at 37°C for 30 min. Ab-sensitized chicken RBCs were prepared by incubating the cells with rabbit anti-chicken RBC Ab (p/n 103-4139) at 150 µg/ml on ice for 1 h.
Fig 2. PMID: 36988282.



Immunocytochemistry
Confocal images of infected chicken blood cells stained with anti-red blood cell antibodies. Anti-RBC, images stained with rabbit anti-chicken red blood cell antibody 103–4139; DIC, differential interference contrast images; Hoechst, Hoechst dye staining of nuclei (DNA); Merged, merged images of anti-RBC, DIC, and DAPI. (A-H) Two cells infected with L. sabrazesi gametocytes have some red dots (yellow arrowheads) that appear to be within the cytoplasm of the host cells. (E-H) A strongly stained white cell (grey arrowheads) that has two nuclei and rough granules in the cytoplasm, suggesting heterophils, monocytes, macrophages, or eosinophils. (I-L) A small cell that has a round nucleus and red dots similar (green arrowheads) to those seen in the infected cells. The small size of the cell suggests that it is likely a thrombocyte. The red ruler in each image indicates 10 µm. Figure provided by CiteAb. Source: PLoS One, PMID: 26218846.

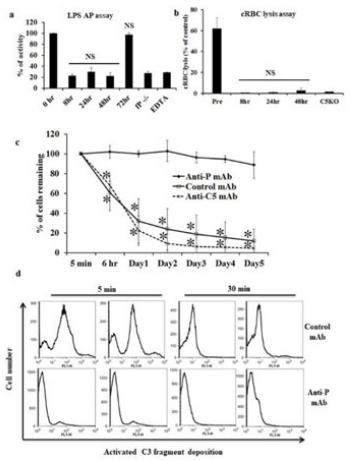


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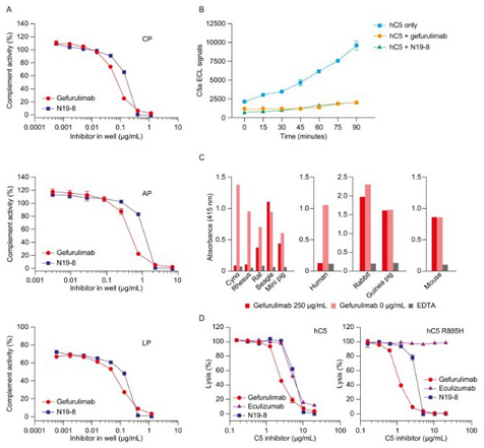


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Figure
Therapeutic efficacy of anti-human P mAb 19.1 in a murine model of extravascular hemolysisa: Pharmacodynamics of mAb 19.1 in hP transgenic mice. Each mouse was treated with 0.5 mg mAb 19.1 (n=3 mice). Serum samples were collected before and at various time points after mAb treatment and assessed for LPS-dependent AP complement activity. At this dosage of mAb 19.1, AP complement activity was suppressed to background (P−/−) level for 2 days. EDTA: time 0 sample with EDTA (20 mM) added. NS, non-significant



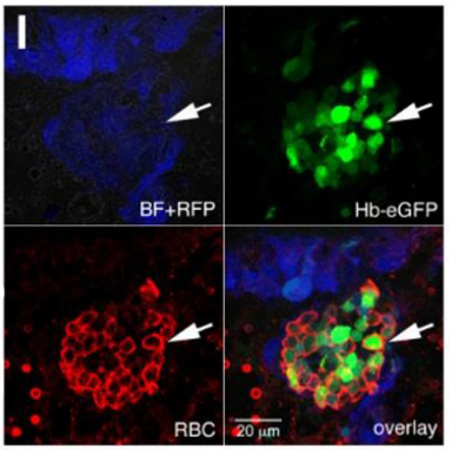
comparing 8, 24 and 48 hr samples with fP−/− or EDTA-treated serum, or comparing 72 hr sample with 0 hr sample. One-way ANOVA. b: Pharmacodynamics of anti-mouse C5 mAb (BB5.1) in hP transgenic mice. Each mouse was treated with 1mg of anti-mouse C5 mAb (n=3). Serum samples were collected before and at various time points after mAb treatment and assessed for lytic activity using antibody-sensitized chicken RBCs. C5 knockout (KO) mouse serum was used as a control for C5 inhibition. Percentage of chicken RBC (cRBC) lysis was normalized to a sample completely lysed by hypotonic shock in double distilled water. * $p<0.0001$, NS: non-significant compared with C5KO serum. One-way ANOVA. c. Effect of anti-hP mAb 19.1 on the survival of transfused CFSC-labeled DAF−/−/Crry−/−/C3−/− mouse erythrocytes in hP- transgenic mice. Recipient mice were treated with anti-hP mAb 19.1 (n=4) or an isotype control mAb (n=4) or anti-mouse C5 mAb (n=3) 6 hours prior to red blood cell transfusion and blood samples were taken at 5 min, 6 hrs and then daily for 5 days. The percentage of CFSC-labeled red blood cells was measured by FACS and normalized to that determined at 5 min (100%). Transfused DAF−/−/Crry−/−/C3−/− mouse red blood cells were rapidly eliminated in control mAb- or anti-C5 mAb-treated hP transgenic mice but such an outcome was prevented by mAb 19.1 treatment. * $p< 0.001$, Two-way ANOVA. d. FACS analysis of activated C3 fragment deposition on DAF−/−/Crry−/−/C3−/− RBCs 5 and 30 min after their transfusion into control mAb- or mAb 19.1-treated hP-Tg/P−/− mice (representative data from two recipient mice are shown). At both time points, C3 fragment deposition was significantly higher on RBCs transfused into control mAb-treated than mAb 19.1-treated hP-Tg/P−/− mice. The reason for the marked reduction in C3 fragment deposition on RBCs in control mAb-treated hP-Tg/P−/− mice between 5 and 30 min is unknown, but could be caused by C3 fragment degradation to C3d or shedding from the cell surface or rapid removal of the C3-opsonized cells. Data in a-c are presented as mean (SD) with indicated n numbers.
Antibody-sensitized chicken RBC (p/n R401-0050) prepared by incubating the cells with a rabbit anti-chicken RBC antibody (p/n 103-4139). Fig 4. PMID: 29898960.



Agglutination

Hemolysis involving the classical complement pathway using Anti-Chicken Red Blood Cell.

Gefurulimab potently and dose-dependently inhibits terminal complement activation. (A) Wieslab assay of the inhibition of membrane attack complex (MAC) formed by classical (CP), alternative (AP) and lectin (LP) pathways by human serum, in comparison with the IgG based C5-blocking mAb N19–8. (B) Inhibition of C5a released by C5 convertase formed on zymosan particles. Assays are in both the absence or presence of 10 µg/mL of gefurulimab or the IgG based C5-blocking mAb N19–8. (C) Species selectivity for inhibition of CP hemolysis by gefurulimab showing blockade only of primate CP activity. (D) Blockade by gefurulimab of CP hemolysis supported by either native C5 (left panel) or recombinant C5 containing the R885H substitution present in a rare C5 variant (right panel), in comparison with eculizumab and N19–8. Fig. 5. PMID: 38142486



Immunohistochemistry

Characterization of the Hb-eGFP-positive cell population. Chick embryos were processed for cVEGFR2 whole mount co-electroporated at HH3-4 with the Hb-eGFP reporter construct (PCR2) and the ubiquitous reporter pCAGGS-RFP and imaged as criosectioned through the yolk sac region at HH11. Top left: bright field and RFP (in blue); top right: Hb-eGFP green fluorescence; bottom left: RBC; bottom right: overlay of bright field and fluorescence images. At later stages, Hb-eGFP fluorescence is detected in cVEGFR2-positive endothelial cells (H; arrow) and blood cells or erythroblasts (I; arrows), but not in smooth muscle cells (J; arrowheads). Fig 2. PMID: 22204590.

References

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