

**International Blood Group
Reference Laboratory**500 North Bristol Park
Northway
Filton
Bristol
BS34 7QH

Antigen	Human IgG
Clone	F79A
Product Code	9490
Immunoglobulin Class	Mouse IgG1, kappa light chain

**Protein Development
and Production Unit****Tel:** +44 (0)117 921 7500**Fax:** +44 (0)117 912 5796**Website:** <http://ibgri.blood.co.uk>**Email:** enquiries.IBGRL@nhsbt.nhs.uk**Antigen Description**

F79A is an anti-human IgG (AHG) antibody. In blood group serology an AHG antibody is used in an antiglobulin test (AKA Coombs test) in either of two clinical blood tests; the direct and indirect Coombs test. The direct Coombs test is used to test for autoimmune haemolytic anaemia; i.e., a condition of a low count of erythrocytes caused by immune system lysis or breaking of erythrocyte membranes causing erythrocyte destruction. In certain diseases or conditions, an individual's blood may contain IgG antibodies that can specifically bind to antigens on the erythrocyte surface membrane, and their circulating erythrocytes can become coated with IgG alloantibodies and/or IgG autoantibodies. Complement proteins may subsequently bind to the bound antibodies and cause erythrocyte destruction. The direct Coombs test is used to detect these antibodies or complement proteins (using an anti-complement antibody such as BRIC 8 or BGRL 11 mixed with the AHG antibody) that are bound to the surface of red blood cells; a blood sample is taken and the erythrocytes are washed (removing the patient's own plasma) and then incubated with AHG reagent. If this produces agglutination of erythrocytes, the test is positive which is a visual indication that antibodies (and/or complement proteins) are bound to the surface of erythrocytes. The indirect Coombs test is used in prenatal testing of pregnant women and in testing blood prior to a blood transfusion. It detects antibodies against erythrocytes that are present unbound in the patient's serum. In this case, serum is extracted from the blood sample taken from the patient. Then, the serum is incubated with erythrocytes of known antigenicity; that is, erythrocytes with known reference values from other patient blood samples. Finally, AHG is added. If agglutination occurs, the indirect Coombs test is positive.

Clone

F79A is a mouse monoclonal antibody which was made in response to intact human erythrocytes coated with immunoglobulin. F79A has been used as an AHG reagent in blood group serology.

References

1. Coombs, RRA, Mourant, AE and Race, RR: (1945b) A new test for the detection of weak and incomplete" Rh agglutinins. Br J Exp Pathol 26:255-266.
2. Coombs, RRA, Mourant AE and Race, RR: (1946) In vivo isosensitization of red blood cells in babies with hemolytic disease." Lancet i: 264-266. 1946
3. Coombs, R. R. A.: Mourant, A. E.: (1947) On certain properties of antiserum prepared against human serum and its various protein fractions: their use in the detection of sensitization of human red cells with 'incomplete' Rh antibodies, and on the nature of this antibody. J. Path. Bact. 59: 105-111.
4. Coombs, R. R. A.: (1970) History and evolution of the anti-globulin reaction and its application in clinical and experimental medicine. Am. J. clin. Path. 53: 131-135.