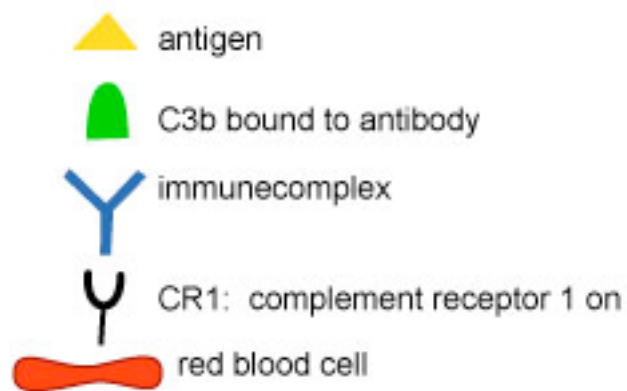
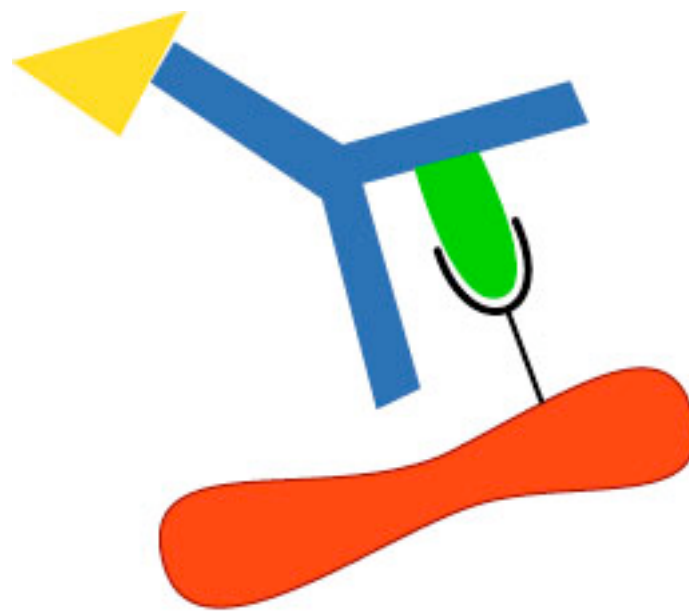


Transport

Teleologically seen, transport of antigen is a very important feature of the antigen-removing task for antibodies. Antibodies find their way to the waste baskets located in the reticuloendothelial system, mainly in liver, spleen, and lung where the immune complex will be eventually metabolized. With some viruses as antigens, the organ tropism is anticipated because some viruses target liver (hepatitis B and C virus), others the nervous system (measles, herpes, cytomeglo-viruses), others bone marrow and heart (coxsackie B3, parvovirus P 19) and others joints (rubella, varicella zoster). If the disposal remains incomplete, the target organ becomes subject to a circulus vitiosus thus becoming a trash removal site: organs which are subject to insufficient immune complex removal by the professional reticuloendothelial system are (in brackets: diagnosis): lung (pneumonia), heart (myocarditis), skin (vasculitides), joint (synovitis). In these cases we all at a sudden find hepatitis viruses in the skin, neurotropic bacteria and viruses in the lung!

A typical consequence of all too long circulating immune complexes is thrombocytopenia, because blood platelets carry Fc-receptors to which immobilized, antibody induced cross-linked Fc fragments of Ig bind. Iatrogenic heparin-induced thrombocytopenia is an example, in which heparin first binds to platelets which thus induce anti-heparin-antibody synthesis: the antibody targets directly an antigen on the surface of the platelet. Fortunately, red blood cells are endowed with C3b receptors that will carry immune complexes linked with C3b. Red blood cells are thus potent transporters of immune complexes and thanks to fluorescence technology we know that a red cell needs about 2 minutes to transport an immune complex from its site of generation to its site of removal. The C3b binding structure on the red cell is called complement receptor CR1 and should this system become overloaded then systemic immune complex overload of the body is a logical consequence.



Red blood cells are not solely transporting oxygen! We here can see that the carry an immune complex according to the depicted scheme (out of scale).