**Mapping of neutrophil-complement-extracellular matrix interactions involved in inflammatory processes**

Interaction between the complement system and the extracellular matrix plays important role in inflammatory diseases. The delicate balance between the complement and inflammation inhibitor factor H and its competitors, the factor H-related proteins determine the extent of complement and inflammatory cell activation. Therefore, the capacity of factor H, and the factor H-related FHR1 and FHR5 proteins to bind to various extracellular matrix components was tested by protein microarray and ELISA. We identified selected extracellular matrix components that bound all three factor H family proteins. We found that both FHR1 and FHR5 could inhibit the binding of factor H to these extracellular matrix components in a dose-dependent manner. This resulted in weaker complement blockade due to reduced factor H binding. Moreover, we measured increased complement activation on some matrix components following incubation in serum when recombinant FHR5 protein was added. We found that the binding of neutrophil granulocytes to the extracellular matrix was not influenced by the tested factor H family proteins.