The human mannose binding lectin (MBL) ELISA kit has been developed for sensitive, specific and reproducible quantification of functional MBL in serum or plasma. Binding to mannan-coated plates enables measuring MBL in patients with autoimmune diseases.

MBL: role in the immune defence

Mannose binding lectin (MBL), also named mannan-binding lectin, is an important factor in the innate immunity. MBL belongs to the class of collectins in the C-type lectin superfamily, whose function appears to be pattern recognition in the first line of defence in the pre-immune host. MBL is a multimeric molecule that recognizes carbohydrate patterns found on the surface of a large number of pathogen micro-organisms including bacteria, viruses, protozoa and fungi. MBL deficiency is caused by three different point mutations that lead to a defect in multimerization. The incidence of MBL deficiency is about 20-25% of the total population, which is relatively high compared to other deficiencies of the complement system. MBL deficiency is associated with increased susceptibility to infections such as otitis media, pneumonitis, gastro-enteritis, meningitis, osteomyelitis and sepsis. Correlation between MBL deficiency and the incidence of infections and autoimmune diseases has not only led to an increase of MBL-diagnostics, but also demonstrated the need for therapeutic applications of purified MBL. Sanquin Reagents has developed a cost-effective ligand ELISA to measure functional MBL. Only larger, functional MBL oligomers will bind to the mannan-coated plate. Therefore this assay is very suitable to identify deficiencies.

Principle of the assay

The assay is an elisa, performed in microwells coated with mannan. Functional MBL from blood samples or calibrator will bind to the mannan surface and is detected with a horseradish peroxidase conjugated antibody against MBL. The lower detection limit of the assay is 9 ng/ml. Levels below 100 ng/ml are considered severely deficient.

Size and price

Our cost-effective kit contains reagents for 288 tests. (3 microplates). The price for the complete kit is € 430.50.

CE certification and clinical studies

Our kit is CE certified. Together with the low price our kit is particularly suitable for large patient studies. By using a mannan-coated surface interference of rheumatoid factor is prevented. This also enables analysis of samples from patients with autoimmune diseases.

Publications


MBL: an additional marker to determine susceptibility to infections