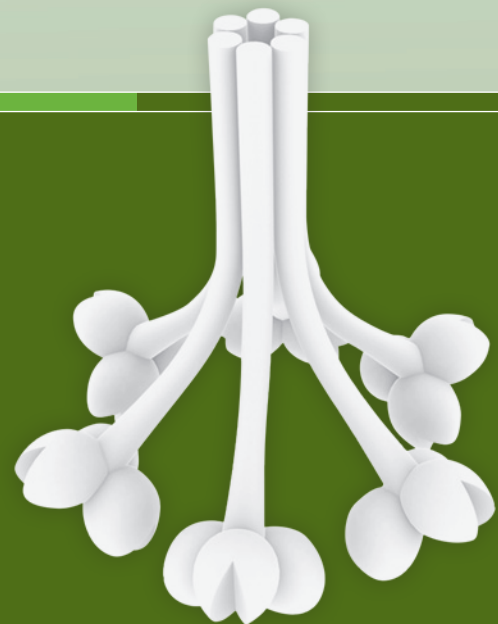


# MBL Oligomer ELISA Kit (KIT 029)

For human serum or plasma



## MBL

- a key test  
in the assessment  
of primary immunodeficiency



**BIOPORTO**<sup>®</sup>  
Diagnostics



# Mannan-binding lectin (MBL)

## – a key test in the assessment of primary immunodeficiency

Mannan-binding lectin (MBL) is an important component of the innate immune system. However, in at least 12% of the average Caucasian population, the circulating level of functional MBL is insufficient. This makes MBL deficiency by far the most common primary immunodeficiency<sup>1</sup>. While the consequences of MBL deficiency can be quite subtle, several studies have shown that MBL deficiency increases susceptibility to infectious diseases and predisposes to greater severity when infections occur. This correlation has not only led to an increase in the routine diagnostic use of MBL measurement, but has also pointed to a need for therapeutic applications of MBL<sup>2</sup>.

## Clinical significance

Deficiency of MBL has been shown to increase the overall susceptibility to infectious diseases and to predispose to greater disease severity; hence especially early and aggressive treatment with antibiotics can be required in risk patients such as those on cancer chemotherapy or immunosuppressant treatment.

MBL is a key test parameter in:

### Patients with a suspected primary immunodeficiency

- Children with recurrent infections<sup>3,4</sup>
- Adults with recurrent, severe & persistent infections<sup>5,6</sup>

### Immunosuppressed patients

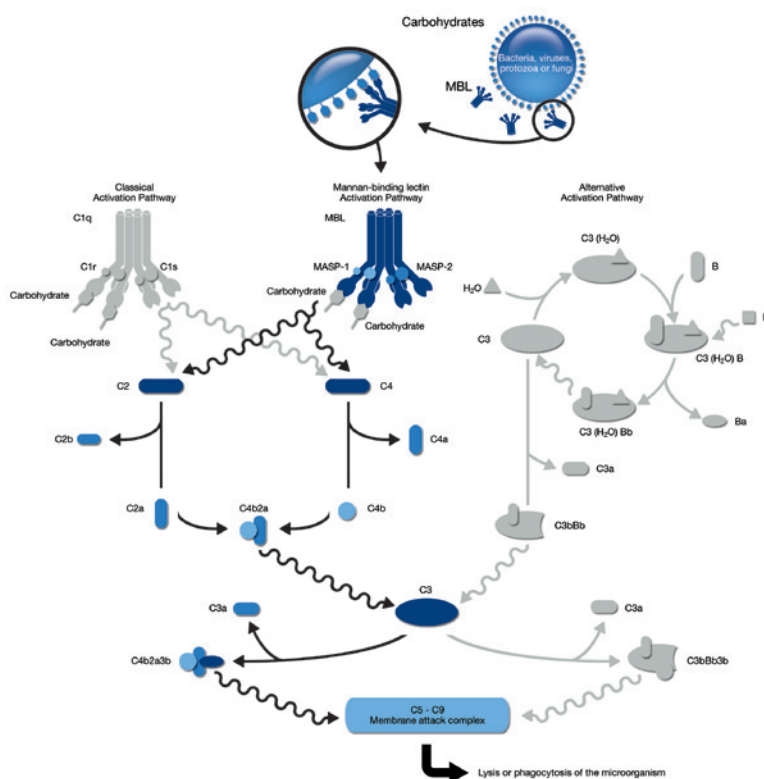
- Cancer chemotherapy<sup>7,8</sup>
- Transplantation<sup>9</sup>

### Patients with cystic fibrosis<sup>10,11</sup>

### Patients with autoimmune diseases

- Systemic lupus erythematosus<sup>12</sup>
- Rheumatoid arthritis<sup>13</sup>

### Women with recurrent spontaneous abortions<sup>14,15</sup>



## MBL in complement activation

The complement system is a set of blood proteins that form a proteolytic enzyme cascade to help clear pathogens from the body. MBL binds specifically to microbial surface carbohydrates and activates the complement system by means of the MASP-dependent lectin pathway, the MASPs being proteolytic enzyme precursors bound to MBL. This leads to the phagocytosis or lysis of pathogenic microorganisms, including bacteria, viruses, protozoa and fungi.

Only the normally oligomerized forms of MBL are functional, i.e. capable of binding efficiently to microbial carbohydrates and associating with the MASPs.

# MBL Oligomer ELISA Kit \*

## Key features

The MBL Oligomer ELISA Kit employs a monoclonal antibody sandwich which is highly specific for normally oligomerized MBL molecules. Hence the results obtained with the MBL Oligomer ELISA Kit (KIT 029) correspond to the circulating levels of “functional” MBL.

The MBL Oligomer ELISA Kit (KIT 029) is used in research all over the world and for routine diagnostic purposes in several countries.

- Measures oligomerized “functional” MBL
- Measures in plasma and serum
- All reagents are ready-to-use
- Storage at 2-8°C
- For *in-vitro* diagnostic (IVD) use\*
- Can be used in many different automated ELISA workstations

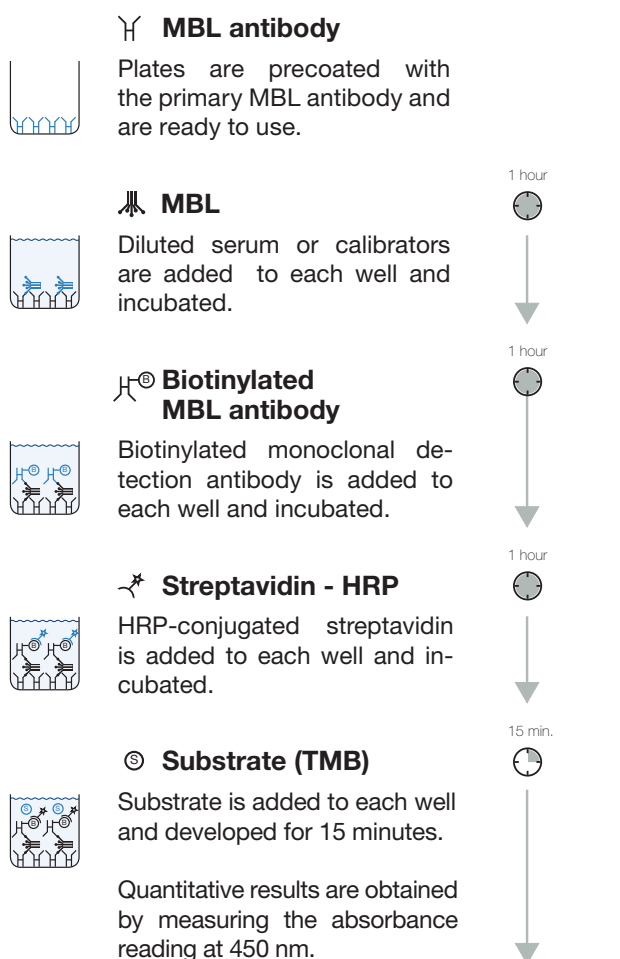
## Kit components

Item	Contents	Quantity
①	12 x 8 coated Microwells + Frame	96 wells
②	Sample Diluent	1 x 60 mL
③a-③h	MBL Calibrator 1-8	8 x 1 mL
④	25x Wash Solution Concentrate	1 x 30 mL
⑤	Biotinylated MBL Antibody	1 x 12 mL
⑥	HRP-Streptavidin	1 x 12 mL
⑦	TMB Substrate	1 x 12 mL
⑧	Stop Solution	1 x 16 mL





www.bioparto.com

## Assay procedure



Total assay time less than 4 hours

## Ordering information

Cat. No.	Product name	Size
KIT 029	MBL Oligomer ELISA Kit   *	96 wells
KIT 029 - RUO	MBL Oligomer ELISA Kit Research Use Only	96 wells
WASH 029-30	25x Wash Solution Concentrate for KIT 029	30 mL
WASH 029-250	25x Wash Solution Concentrate for KIT 029	250 mL

\* available in selected countries only.

## Related products

Cat. No.	Product name
HYB 131-01	Mouse monoclonal anti-MBL antibody
HYB 131-01B	Biotinylated mouse monoclonal anti-MBL antibody
HYB 131-10	Mouse monoclonal anti-MBL antibody
HYB 131-11	Mouse monoclonal anti-MBL antibody
SER 101	MBL standard serum (1000 AU), lyophilized
SER 102	MBL oligomer deficient serum, B/B genotype

## References

1. Turner MW (2003) The role of mannose-binding lectin in health and disease. *Mol Immunol* 40:423-429.
2. Summerfield JA (2003) Clinical potential of mannose-binding lectin-replacement therapy. *Biochem Soc Trans* 31:770-773.
3. Koch A, Melbye M, Sorensen P, Homoe P, Madsen HO, Molbak K, Hansen CH, Andersen LH, Hahn GW, Garred P (2001) Acute respiratory tract infections and mannose-binding lectin insufficiency during early childhood. *JAMA* 285:1316-1321.
4. Forster-Waldl E, Cokoja L, Foster D, Maurer W (2003) Mannose-binding lectin: comparison of two assays for the quantification of MBL in the serum of pediatric patients. *J Immunol Methods* 276:143-146.
5. Eisen DP, Dean MM, Boermeester MA, Fidler KJ, Gordon AC, Kronborg G, Kun JF, Lau YL, Payeras A, Valdimarsson H, Brett SJ, Ip WK, Mila J, Peters MJ, Saevarsdottir S, van Till JW, Hinds CJ, McBryde ES (2008) Low serum mannose-binding lectin level increases the risk of death due to pneumococcal infection. *Clin Infect Dis* 47:510-516.
6. Garcia-Laorden MI, Sole-Violan J, Rodriguez de Castro F, Aspa J, Briones ML, Garcia-Saavedra A, Rajas O, Blanquer J, Caballero-Hidalgo A, Marcos-Ramos JA, Hernandez-Lopez J, Rodriguez-Gallego C (2008) Mannose-binding lectin and mannose-binding lectin-associated serine protease 2 in susceptibility, severity, and outcome of pneumonia in adults. *J Allergy Clin Immunol* 122:368-374.
7. Peterslund NA, Koch C, Jensenius JC, Thiel S (2001) Association between deficiency of mannose binding lectin and severe infections after chemotherapy. *Lancet* 358:637-638.
8. Ytting H, Christensen IJ, Jensenius JC, Thiel S, Nielsen HJ (2005) Preoperative mannan-binding lectin pathway and prognosis in colorectal cancer. *Cancer Immunol Immunother* 54:265-272.
9. Mullighan CG, Heatley SL, Danner S, Dean MM, Doherty K, Hahn U, Bradstock KF, Minchinton R, Schwarzer AP, Szer J, Bardy PG (2008) Mannose-binding lectin status is associated with risk of major infection following myeloablative sibling allogeneic hematopoietic stem cell transplantation. *Blood* 112:2120-2128.
10. Davies JC, Turner MW, Klein N (2004) Impaired pulmonary status in cystic fibrosis adults with two mutated MBL-2 alleles. *Eur Respir J* 24:798-804.
11. Muhlebach MS, MacDonald SL, Button B, Hubbard JJ, Turner ML, Boucher RC, Kilpatrick DC (2006) Association between mannan-binding lectin and impaired lung function in cystic fibrosis may be age-dependent. *Clin Exp Immunol* 145:302-307.
12. Garred P, Voss A, Madsen HO, Junker P (2001) Association of mannose-binding lectin gene variation with disease severity and infections in a population-based cohort of systemic lupus erythematosus patients. *Genes Immun* 2:442-450.
13. Saevarsdottir S, Vikingsdottir T, Vikingsson A, Manfredsdottir V, Geirsson AJ, Valdimarsson H (2001) Low mannose binding lectin predicts poor prognosis in patients with early rheumatoid arthritis. A prospective study. *J Rheumatol* 28:728-734.
14. Jauniaux E, Farquharson RG, Christiansen OB, Exalto N (2006) Evidence-based guidelines for the investigation and medical treatment of recurrent miscarriage. *Hum Reprod* 21:2216-2222.
15. Christiansen OB, Kilpatrick DC, Souter V, Varming K, Thiel S, Jensenius JC (1999) Mannan-binding lectin deficiency is associated with unexplained recurrent miscarriage. *Scand J Immunol* 49:193-196.

For more information, please contact BioPorto Diagnostics or your local BioPorto Diagnostics distributor



BioPorto Diagnostics A/S      Phone    (+45) 4529 0000  
 Grusbakken 8                      Fax        (+45) 4529 0001  
 DK-2820 Gentofte                E-mail    info@bioporto.com  
 Denmark                              Web        www.bioporto.com

Distributed by: