Mannose Binding Lectin

Synonyms	MBL, MBP
Clinical Indication	MBL is a member of the Collectin family, which are proteins characterised by the presence of collagen-like and lectin-binding domains. MBL is produced in the liver and secreted into the blood, where it constitutes an important element in innate immune defence. MBL shares functional features in common with C1q, IgM and IgG. It is associated with a serine protease (MASP); MBL associated serine protease is activated when MBL binds to microbial carbohydrate surfaces and in turn activates the lectin pathway of the complement cascade. MBL deficiencies are associated with defects of opsonisation and an increased risk of infection when the adaptive immune system is immature (in early childhood) or has been suppressed (e.g. after organ transplantation or during cancer chemotherapy), and with a poorer prognosis in cystic fibrosis. Low concentration of MBL in serum or plasma is common and does not necessarily imply the existence of any disease. The results must be interpreted alongside the patient's clinical features. Clinically indicated in recurrent infections in childhood or during chemotherapy.
Part of Profile / See Also	
Request Form	Combined Pathology manual Blood form or ICE request
Availability / Frequency of Analysis	Referred test: Analysed by Immunology, Sheffield Protein Reference Unit 8494
Turnaround Time	Two weeks
Patient Preparation	
Sample Requirements	**URGENT - Samples must be taken to the ESL laboratory and remain at the ESL for processing. If sent to Hub, freeze as soon as possible.**
Specimen Type	Serum
Volume	2 ml
Container	 Yellow top (SST) tube  Paediatric lithium heparin (Orange top – Sarstedt tube)  Paediatric lithium heparin (Pale green top – BD Microtainer)
Reference Range & Units	Normal Values are: 0.7 – 6.0 mg/L
Interferences	HAMA (human anti-mouse antibodies) [resulting from monoclonal antibody

	therapy where the MAbs were produced in mice) and rheumatoid factor may produce falsely elevated results.
Interpretation & Clinical Decision Value (if applicable)	Comment provided by referral laboratory. Further interpretation available from an Immunologist. Levels of <0.075 mg/L activity correlate with non-functional allele/homozygous variant alleles. MBL deficiency is common. 5-10% of the population have MBL deficiency. An additional 25% are heterozygous for the deficient state. MBL deficiency is unlikely to pose a significant risk to an otherwise immune competent host. MBL deficiency plays a role in the predisposition to infection in individuals with other defects of immunity. MBL deficiency is associated with a predisposition to autoimmune diseases.
References	https://sheffieldlaboratorymedicine.nhs.uk/search-test.php?search=3305&testname=Mannose%20Binding%20Lectin%20(MBL%20/%20MBP) Thiel S, Frederiksen PD and Jensenius JC. Clinical manisfestations of mannan-binding lectin deficiency. *Mol Immun*. 2006. **43**:86-96.
Test code	BMBL
Lab Handling	**Sample must be bled and frozen as soon as possible at ESL or Hub site.** Centrifuge serum sample and aliquot 500ul and store in -20C frozen referrals rack. Sent daily by Royal Mail to PRU, Sheffield Northern General Hospital. Sample can be sent ambient and allowed to thaw in transit. There is no specific urgency for the sample to reach the laboratory immediately so please do not reject. Discuss with the referrals team/clinical team if in doubt.

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