

## Mannan Binding Lectin/MBL2 Protein, Human, Recombinant

### General Information

Synonyms:	MBPD;MBP-C;mannose-binding lectin (protein C) 2, soluble;COLEC1;HSMBPC;MBP1;MBL;MBL2D;MBP
Protein Construction:	A DNA sequence encoding the human MBL (NP_000233.1) (Met1-Ile 248) was expressed. Predicted N terminal: Glu 21
Species:	Human
Expression Host:	CHO Cells
Accession:	P11226
Molecular Weight:	24 kDa (predicted); 31 kDa (reducing conditions)

### QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

### Preparation and Storage

#### Reconstitution:

Reconstituted with sterile deionized water to 0.25 mg/mL. Reconstitution conditions may vary depending on the lot.

#### Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

#### Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

MBL (mannose-binding lectin) is primarily a liver-derived collagen-like serum protein, which binds sugar structures on micro-organisms and dying host cells and is one of the four known mediators that initiate activation of the complement system via the lectin pathway. MBL and the ficolins (Ficolin-1, Ficolin-2, and Ficolin-3) are soluble collagen-like proteins that are involved in innate immune defense. They bind sugar structures or

acetylated compounds present on microorganisms and dying host cells and they initiate activation of the lectin complement pathway in varying degrees. MBL2 encodes the mannose-binding lectin, which is a key player in the innate immune system and has recently been found to play a role in the development of type 1 diabetes and gestational diabetes mellitus. Common variant alleles situated both in the promoter and structural regions of the MBL2 gene influence the stability and the serum concentration of the protein. Several polymorphisms in the promoter and structural regions of MBL2 adversely affect the plasma concentration and the oligomeric state of MBL. The possession of mutant alleles has been linked to disease outcomes for a variety of bacterial and viral infections. Mutant MBL2 haplotypes have been linked to disease progression and response to therapy in HCV infection.

### Reference

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- Muller YL, et al. (2010) Functional Variants in MBL2 Are Associated With Type 2 Diabetes and Pre-Diabetes Traits in Pima Indians and the Old Order Amish. *Diabetes.* 59(8): 2080-5.

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