Human MBL Biotinylated Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: BAF2307

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human MBL in ELISAs and Western blots. In sandwich immunoassays, less than 0.05% cross-reactivity with recombinant mouse (rm) MBL and rmMBL-2 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human MBL (R&D Systems, Catalog # 2307-MB) Glu21-Ile248 Accession # AAH96182
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	0.1 µg/mL	Recombinant Human MBL (Catalog # 2307-MB)
Human MBL Sandwich Immunoassay		**Reagent**
ELISA Capture	0.2-0.8 µg/mL	Human MBL Antibody (Catalog # AF2307)
ELISA Detection	0.1-0.4 µg/mL	Human MBL Biotinylated Antibody (Catalog # BAF2307)
Standard		Recombinant Human MBL (Catalog # 2307-MB)

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Human mannose/mannan-binding lectin (MBL; also MBP-C) is a 25 kDa member of the collectin family of pattern-recognition molecules (1-3). It is a secreted glycoprotein that is synthesized as a 248 amino acid (aa) precursor that contains a 20 aa signal sequence, a 21 aa cysteine-rich region (with three cysteines) a 58 aa collagen-like segment and a 111 aa C-type lectin domain that binds to neutral bacterial carbohydrates (3, 4). The molecule is O-glycosylated and contains multiple hydroxylated prolines and lysines (3, 5). Functionally, the molecule operates as a multimer/oligomer. The basic structural unit is a homotrimer. The homotrimer is created by the formation of interchain disulfide bonds among the cysteine-rich regions, plus a helical interaction of the collagen-like domains of each participating polypeptide (5). Mutations in the collagen region are known to interfere with proper trimer and subsequent oligomer formation (6). Once formed, the trimer, as a unit, oligomerizes with other trimers to form high molecular weight complexes. Although the exact nature of these complexes are unclear, it would appear that a three trimer complex (230 kDa) and a four trimer complex (305 kDa) constitute much of the circulating MBL (7). It is within the context of these oligomers that MBL performs its functions. After secretion by hepatocytes, oligomerized MBL will both associate with serine proteases (MASP-1, -2, and -3) and bind to bacterial carbohydrates. If the MBL complex is small, opsonization of bacteria occurs. If the complex is large, the MASPs are engaged and a complement attack complex is generated, destroying bound bacteria (3, 7, 8). Human MBL is 63%, 61% and 65% aa identical to mouse, porcine and bovine MBL, respectively.

References:

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