ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Beta-2 Microglobulin (B2M) Antibodies and protein controls

Cat. # B2M11-S	**Rabbit** Anti-Human B2M antiserum # 1	**SIZE**: 100 ul
Cat. # B2M11-BT	**Rabbit** Anti-Human B2M IgG-biotin conjugate	**SIZE**: 100 ul
Cat. # B2M11-HRP	**Rabbit** Anti-Human B2M IgG-HRP conjugate	**SIZE**: 100 ul
Cat. # B2M11-C	**Human** B2M purified protein WB +ve control	**SIZE**: 100 ul

Beta-2-microglobulin (B2M) is found in the serum of normal individuals and in the urine in elevated amounts in patients with Wilson disease, cadmium poisoning, and other conditions leading to renal tubular dysfunction. Like immunoglobulins, prealbumin, and the beta protein found in the amyloid of Alzheimer disease, B2M has a predominantly beta-pleated sheet structure that may adopt the fibrillar configuration of amyloid in certain pathologic states. The protein is a single polypeptide chain of molecular weight 11,600 (human 119 aa, chromosome 15). B2M associates with heavy hcain of class I MHC antigens on the cell surface. A transient complex of MHC-heavy chain and B2M is is known to be assembled into the TAP molecule involving interation with a number of chaperones. Binding of the processed peptide releases the class I-B2M complex to the cell surface. Absence of binding leads to degradation in the proteasome. Progressive hepatic iron overload, indistinguishable from that observed in HFE, was found only in mice homozygous for the mutated B2M gene

Source of Antigen and Antibodies

#B2M11-S, unlabeled antiserum

Antigen	Purified **human B2M protein (~12 Kda)**
Ab Host/type	Rabbit, **Polyclonal** antiserum # B2M11-S
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control IgG	Cat # 20009-1, Rabbit (non-immune) Serum IgG, purified, suitable for ELISA, Western, IHC as –ve control

#B2M11-BT, Biotin conjugate

Purified antibody was coupled to Biotin using Biotinamidocaproate N-Hydroxysuccinimide Ester (BAC) at F/P ratio ~10-20:1. The antibody is supplied in PBS, pH 7.4, 0.2% BSA and 0.05% azide in either **lyophilized** (0.1 mg) or **liquid** form (0.1 mg/0.1 ml). Reconstitute powder in PBS in 0.1 ml to prepare 1 mg/ml solution. Store at -20oC in suitable aliquots. Stability is ~6-12 months. Do not freeze and thaw.

Suggested conjugate dilutions are 1:5,000-1:30,000 ELISA, 1:2K-1:10K for western.

Cat# B2M11-HRP, HRP-conjugate

Purified antibody was coupled to HRP (RZ>3.0) using periodate method. The molar enzyme to protein (E/P) ratio = 4.0. The antibody is supplied in stabilizing buffer, 0.1% prolcin-300 as preservative in either **lyophilized** (0.1 ml) or **liquid** form (0.1 ml @ ~0.5 mg/ml). Reconstitute powder in PBS in 0.1 ml. Store at 4oC in suitable aliquots. Stability is ~6-12 months. Do not freeze and thaw.

Suggested conjugate dilutions are 1:1,000-1:10,000 ELISA, 1:1K-1:5K for western, and 1:200-1:1000 (IHC).

Purified **human B2M protein f**or Western blot +ve control (**Cat # B2M11-C**) is supplied in SDS-PAGE sample buffer (reduced). Load 10 ul/lane of **B2M11**-C for good visibility with antibody Cat # **B2M11**-S. Store at –20oC in suitable size aliquots. SDS may crystallize in cold conditions. It should redissolve by warming before taking it from the stock. It should be heated once prior to loading on gels. If the product has been stored for several weeks, then it may be preferable to add 5 ul of fresh 2x sample buffer per 10 ul of the **B2M11**-C solution prior to heating and loading on gels. This preparation is not biologically active. It is not suitable for ELISA or other applications where native protein is required. Do not freeze, thaw, or heat repeatedly

Form & Storage of Antibodies/Peptide Control

Storage

Short-term: unopened, undiluted vials for less than a week at 4oC.

Long-term: at –20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at –20oC or below.
Shipping: 4oC for solutions and room temp for lyophilized items.

Recommended Usage

Western Blotting (1:1K-5K for antiserum or ascites using Chemiluminescence technique). B2M is ~12 kDa.

ELISA (1:100K; using 50-100 ng control antigen/well).

Histochemistry & Immunofluorescence: Not tested

Specificity & Cross-reactivity

The antibodies have been tested in human but crossreactivity is expected with mouse and rat B2M. Antibody cross-reactivity in various species has not been studied. Western blot +ve control should be run to identify the appropriate B2M band and find optimum antibody dilutions.

General References: (1). Gussow D (1987) J. Immunol. 139, 3132-3138; Suggs SV (1981) PNAS 78, 6613-6617; Cunningham BA (1973) Biochemistry 12, 4811-4822; Bjorkman PJ (1987) nature 329, 506-512; deSouza M (1994) Immunol. Lett. 39, 105

*This product is for in vitro research use only.

Related items

B2M11-BT	Anti-Human beta 2-microglobulin protein IgG, Biotin
B2M11-C	Purified Human beta-2 microglobulin (B2M) WB +ve
B2M11-HRP	Anti-Human beta 2-microglobulin protein IgG-HRP
B2M11-S	Anti-Human beta-2 microglobulin (B2M) antiserum #
B2M12-M	Monoclonal Anti-Human beta-2 microglobulin (B2M)
B2M15-N	Purified Human beta-2 microglobulin (B2M) protein
B2M16-N-1	Beta 2 Microglobulin (B2M) High Pure
B2M17-N-1	Beta 2 Microglobulin (B2M) Partially Pure

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