β2-Microglobulin Protein (Active)

Catalog# BNP1021

Lot # Check on the product label

Size 100 μg

Description
Purified human β2-Microglobulin protein.

Synonyms Beta-2-microglobulin, B2M, CDABP0092, HDCMA22P

Source Human tissue

Formulation Liquid

Purity ≧90% by SDS-PAGE

Application
ELISA
Other applications have not been tested.

Storage buffer
Each vial contains 10 mM PBS (pH 7.4).

Storage & Expiration
Ship at 4℃. Upon receipt, aliquot and store at -20℃ or -80℃ for long term.
Avoid repeated freeze and thaw cycles.

Background
Beta-2-microglobulin (B2M) is a serum protein found in association with the major histocompatibility complex (MHC) class I heavy chain on the surface of nearly all nucleated cells. B2M gene contains 4 exons and spans approximately 8 kb. The neonatal Fc receptor (FcRn) is a heterodimer of a nonclassical MHC class I alpha and B2M that binds the 2 most abundant serum proteins, IgG and albumin, after their constitutive cellular uptake. FcRn binds both proteins, thus acting as a salvage pathway, protecting them from lysosomal degradation and extending the catabolic half-lives of both proteins. Beta-2-microglobulin had been 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.

Reference
1. Gussow, D., Rein, R., Ginjaar, I., Hochstenbach, F., Seemann, G., Kottman, A., Ploegh, H. L. The human beta-2-microglobulin gene: primary structure and definition of the transcriptional unit. J. Immun. 139: 3132-3138, 1987.
2. Wani, M. A., Haynes, L. D., Kim, J., Bronson, C. L., Chaudhury, C., Mohanty, S., Waldmann, T. A., Robinson, J. M., Anderson, C. L. Familial hypercatabolic hypoproteinemia caused by deficiency of the neonatal Fc receptor, FcRn, due to a mutant beta-2-microglobulin gene. Proc. Nat. Acad. Sci. 103: 5084-5089, 2006.
3. Berggard, I., Bearn, A. G. Isolation and properties of a low molecular weight beta-2-globulin occurring in human biological fluids. J. Biol. Chem. 243: 4095-4103, 1968.

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