

Technical Data Sheet

Recombinant Human β 2 Microglobulin

Product Information

Material Number:	551089
Size:	0.1 mg
Concentration:	0.5 mg/ml
Storage Buffer:	Aqueous buffered solution containing $\leq 0.09\%$ sodium azide.

Description

The major histocompatibility complex (MHC) gene locus encodes a group of highly polymorphic, cell surface proteins that play a broad role in the immune response to protein antigens. MHC molecules function by binding and presenting small antigenic protein fragments to antigen-specific receptors expressed by T cells (TCR). Class I MHC molecules consist of two separate polypeptide chains. The class I α chain is an MHC encoded, transmembrane polypeptide containing three extracellular domains: $\alpha 1$, $\alpha 2$ and $\alpha 3$. The second chain consists of a non-MHC encoded, 12 kD polypeptide called $\beta 2$ microglobulin ($\beta 2M$). Since $\beta 2M$ does not contain a transmembrane domain, it associates with the α chain through non-covalent interaction. This association is important for the stability of the MHC class I structure, its peptide-loading and its ability to present peptide antigen to CD8+ T cells. $\beta 2M$ is relatively invariant within each species. For example, human $\beta 2M$ is reported to have high affinity for human and mouse MHC class I heavy chains.

Human $\beta 2$ Microglobulin recombinant protein was expressed in insect cells. The expressed protein was purified by a combination of ion-exchange and gel-filtration methods.

Preparation and Storage

Store undiluted at 4° C and protected from prolonged exposure to light. Do not freeze.

Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to wwwbdbiosciences.com/pharmingen/protocols for technical protocols.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.

References

- Parker KC, DiBrino M, Hull L, Coligan JE. The beta 2-microglobulin dissociation rate is an accurate measure of the stability of MHC class I heterotrimers and depends on which peptide is bound. *J Immunol.* 1992; 149(6):1896-1904.(Biology)
- Shields MJ, Moffat LE, Ribaud RK. Functional comparison of bovine, murine, and human beta2-microglobulin: interactions with murine MHC I molecules. *Mol Immunol.* 1998; 35(14-15):919-928.(Biology)
- Silver ML, Parker KC, Wiley DC. Reconstitution by MHC-restricted peptides of HLA-A2 heavy chain with beta 2-microglobulin, in vitro. *Nature.* 1991; 350(6319):619-622.(Biology: Activation)

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