APA260Hu61 50μg
Active Beta-2-Microglobulin (b2M)
Organism Species: *Homo sapiens* (Human)
Instruction manual

FOR RESEARCH USE ONLY
NOT FOR USE IN CLINICAL DIAGNOSTIC PROCEDURES

13th Edition (Revised in Aug, 2023)

[PROPERTIES]

Source: Eukaryotic expression.
Host: 293F cell
Residues: Gln22~Met119
Tags: N-terminal His-tag
Purity: >95%
Endotoxin Level: <1.0EU per 1μg (determined by the LAL method).
Buffer Formulation: PBS, pH7.4, containing 5% Trehalose .
Original Concentration: 150μg/mL
Applications: Activity Assays.
(May be suitable for use in other assays to be determined by the end user.)
Predicted isoelectric point: 6.1
Predicted Molecular Mass: 13.2kDa
Accurate Molecular Mass: 13kDa as determined by SDS-PAGE reducing conditions.

[USAGE]

Reconstitute in 10mM PBS (pH7.4) to a concentration of 0.1-1.0 mg/mL. Do not vortex.

[STORAGE AND STABILITY]

Storage: Avoid repeated freeze/thaw cycles.
Store at 2-8°C for one month.
Aliquot and store at -80°C for 12 months.
Stability Test: The thermal stability is described by the loss rate. The loss rate was determined by accelerated thermal degradation test, that is, incubate the

protein at 37ºC for 48h, and no obvious degradation and precipitation were observed. The loss rate is less than 5% within the expiration date under appropriate storage condition.

[SEQUENCE]

QRTPKIQVY SRHPAENGKS NFLNCYVSGF
HPSDIEVDLL KNGERIEKVE HSDLSFSKDW SFYLLYYTEF TPTEKDEYAC
RVNHVTLSQP KIVKWDRDM

[ACTIVITY]

Beta-2-microglobulin (β 2M, encoded by B2M) is a small, non-glycosylated protein with a molecular mass of approximately 12 kDa. It is ubiquitously expressed on the surface of nearly all nucleated cells and serves as an invariant light chain of major histocompatibility complex (MHC) class I molecules. β 2M plays a critical role in stabilizing the conformation of MHC class I heavy chains and facilitating the presentation of endogenous peptide antigens to cytotoxic T lymphocytes, which is essential for cellular immune surveillance and antiviral and antitumor responses. Elevated serum β 2M levels are often associated with immune activation, lymphoproliferative disorders, renal dysfunction, and certain inflammatory conditions. Structurally, it belongs to the immunoglobulin superfamily and is also involved in cell adhesion and antigen recognition processes. β 2M forms a stable structural complex with CD1a to support lipid antigen presentation and T-cell recognition. Briefly, CD1a was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 μ l were then transferred to β 2M-coated microtiter wells and incubated for 1h at 37℃. Wells were washed with PBST and incubated for 1h with anti-CD1a pAb, then aspirated and washed 3 times. After incubation with HRP labelled secondary antibody for 1h at 37℃, wells were aspirated and washed 5 times. With the addition of substrate solution, wells were incubated 15-25 minutes at 37℃. Finally, add 50 μL stop solution to the wells and read at 450/630nm immediately. Measured by its binding ability in a functional ELISA. When recombinant human β 2M is Immobilized at 2 μg/mL(100 μLwell), the

concentration of CD1a that produces 50% optimal bindingresponse is found to be approximately 0.239 μg/mL.

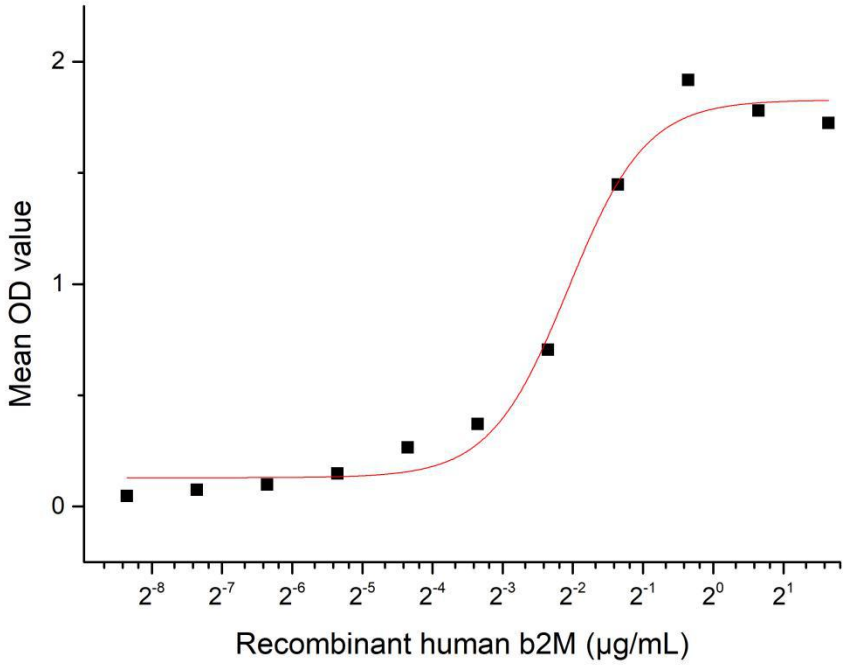

Figure 1. The binding activity of recombinant human β2M and human CD1a

[IDENTIFICATION]

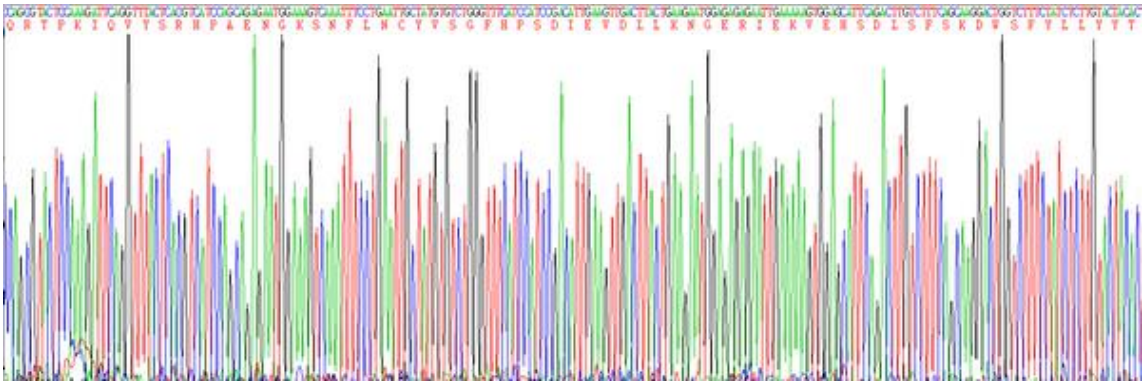

Figure 2. Gene Sequencing (extract)

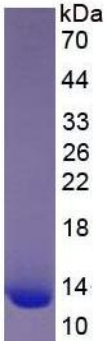

Figure 3. SDS-PAGE

Sample: Active recombinant b2M, Human

[IMPORTANT NOTE]

The kit is designed for research use only, we will not be responsible for any issue if the kit was used in clinical diagnostic or any other procedures.