APB262Hu61 10μg
Active Integrin Beta 3 (ITGb3)
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: Gly27~Asp135
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: 250μg/mL
Applications: Activity Assays.
(May be suitable for use in other assays to be determined by the end user.)
Predicted isoelectric point: 4.5
Predicted Molecular Mass: 13.5kDa
Accurate Molecular Mass: 17&19kDa as determined by SDS-PAGE reducing conditions.
Phenomenon explanation:
The possible reasons that the actual band size differs from the predicted are as follows:
1. Splice variants: Alternative splicing may create different sized proteins from the same gene.
2. Relative charge: The composition of amino acids may affects the charge of the protein.
3. Post-translational modification: Phosphorylation, glycosylation, methylation etc.
4. Post-translation cleavage: Many proteins are synthesized as pro-proteins, and then cleaved to give the active form.
5. Polymerization of the target protein: Dimerization, multimerization etc.

[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 37°C 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]

GPNICTTRGVSSCQQCLAVSPMCAWCSDEALPLGSPRCDLKENLLKDNCAPESIEFPVSEARVLEDRPLSDKGSGDSSQVTQVSPQRI
ALRLRPDDSKNFSIQVRQVED

[ACTIVITY]

Human Integrin Beta 3 (ITGb3), a critical transmembrane glycoprotein subunit encoded by the ITGB3 gene, is abundantly expressed in human platelets, endothelial cells, osteoclasts and tumor cells. As a core subunit of integrin heterodimers, human ITGb3 non-covalently couples with specific alpha subunits to mediate cell adhesion, migration, proliferation and survival by binding extracellular matrix (ECM) proteins such as fibrinogen and vitronectin. Its activation is stringently modulated by intracellular signaling pathways, and the dysregulation of human ITGb3 is closely associated with multiple pathological conditions including thrombotic disorders, cancer metastasis and osteoporosis. In human platelets, the ITGb3-containing αIIbβ3 heterodimer serves as a central receptor for fibrinogen cross-linking, which is indispensable for platelet aggregation and blood clot formation; in tumor biology, it promotes angiogenesis and tumor cell invasion through interactions with the tumor microenvironment. Human ITGb3 physically binds to Rat ITGa5 to form the α5β3 heterodimer, which enhances cell adhesion to fibronectin in the ECM.Briefly, ITGa5 was diluted serially in PBS with 0.01% BSA (pH 7.4). Duplicate samples of 100 µl were then

transferred to ITGb3-coated microtiter wells and incubated for 1h at 37℃. Wells were washed with PBST and incubated for 1h with anti-ITGa5 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 ITGb3 is Immobilized at 2 μg/mL(100 uLwell), the concentration of ITGa5 that produces 50% optimal bindingresponse is found to be approximately 4.89 μg/mL.

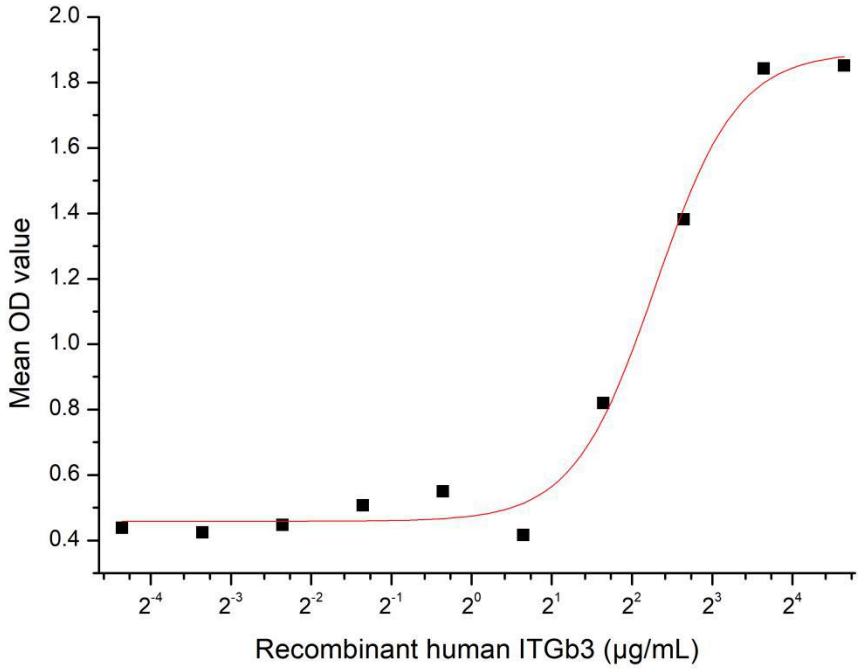

Figure 1. The binding activity of recombinant ITGb3 **and** ITGa5

[IDENTIFICATION]

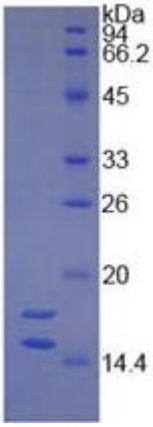

Figure 2. SDS-PAGE

Sample: Active recombinant ITGb3, 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.