



Synonym

Integrin alpha 4 beta 1,ITGA4&ITGB1

Source

Human ITGA4&ITGB1 Heterodimer Protein, His Tag&Tag Free(IT1-H52W1) is expressed from human 293 cells (HEK293). It contains AA Tyr 34 - Thr 977 (ITGA4) & Gln 21 - Asp 728 (ITGB1) (Accession # [P13612-1](#) (ITGA4) & [P05556-1](#) (ITGB1)).

Predicted N-terminus: Tyr 34 & Ser 592 (ITGA4) & Gln 21 (ITGB1)

Molecular Characterization

ITGA4 (Tyr 34 - Thr 977) P13612-1	Acidic Tail	Poly-his
ITGB1 (Gln 21 - Asp 728) P05556-1	Basic Tail	

Human ITGA4&ITGB1 Heterodimer Protein, His Tag&Tag Free, produced by co-expression of ITGA4 and ITGB1, has a calculated MW of 111.5 kDa (ITGA4) and 83.7 kDa (ITGB1). Subunit ITGA4 is fused with an acidic tail at the C-terminus and followed by a polyhistidine tag and subunit ITGB1 contains no tag but a basic tail at the C-terminus. The ITGA4 subunit is composed of a heavy chain (Tyr 34 - Arg 591, calculated MW 61.1 kDa) and a light chain (Ser 592 - Thr 977, calculated MW 50.4 kDa). Consequently ITGA4 migrates as 60-75 kDa, and ITGB1 as 110-140 kDa when calibrated against [Star Ribbon Pre-stained Protein Marker](#) respectively under non-reducing (NR) condition due to cleavage and glycosylation.

Endotoxin

Less than 1.0 EU per µg by the LAL method.

Purity

>90% as determined by SDS-PAGE.

Formulation

Lyophilized from 0.22 µm filtered solution in 50 mM Tris, 150 mM NaCl, pH7.5 with trehalose as protectant.

Contact us for customized product form or formulation.

Reconstitution

Please see Certificate of Analysis for specific instructions.

For best performance, we strongly recommend you to follow the reconstitution protocol provided in the CoA.

Storage

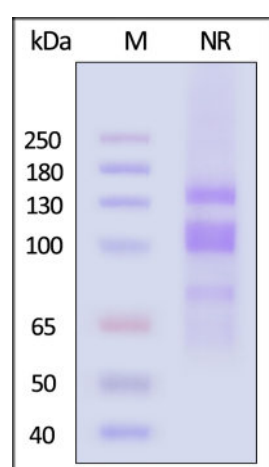
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

Please avoid repeated freeze-thaw cycles.

This product is stable after storage at:

- -20°C to -70°C for 12 months in lyophilized state;
- -70°C for 3 months under sterile conditions after reconstitution.

SDS-PAGE

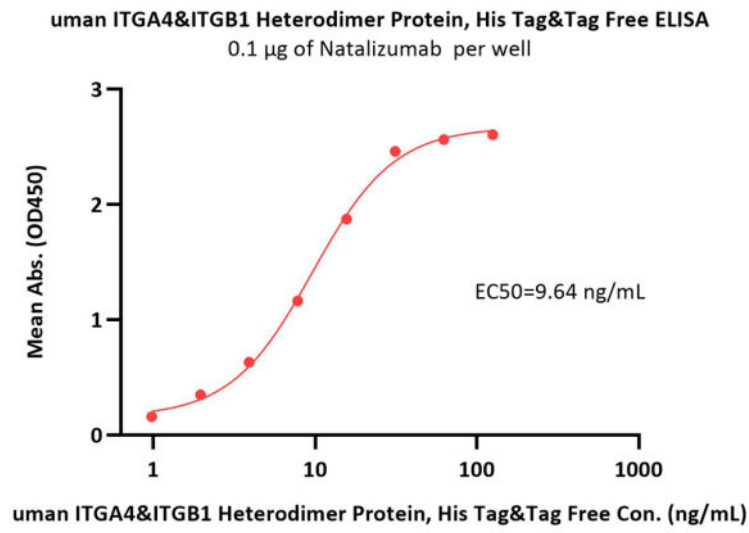


Human ITGA4&ITGB1 Heterodimer Protein, His Tag&Tag Free on SDS-PAGE under non-reducing (NR) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 90% (With [Star Ribbon Pre-stained Protein Marker](#)).

Bioactivity-ELISA

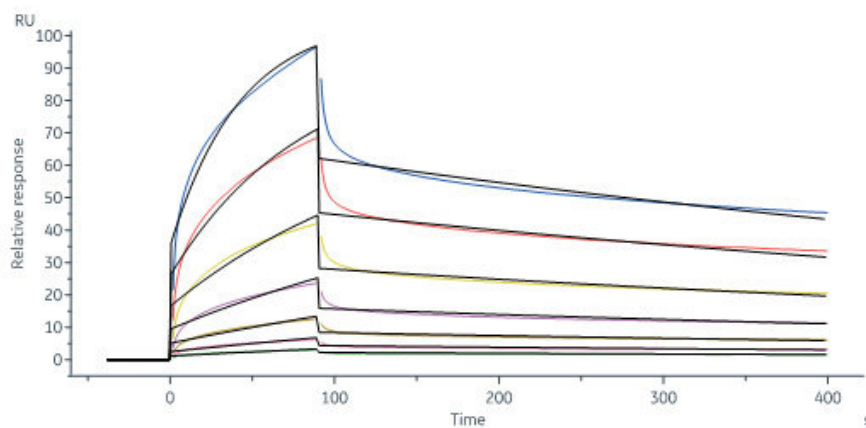
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Immobilized Natalizumab at 1 µg/mL (100 µL/well) can bind Human ITGA4&ITGB1 Heterodimer Protein, His Tag&Tag Free (Cat. No. IT1-H52W1) with a linear range of 1-16 ng/mL (QC tested).

Bioactivity-SPR



Human VCAM-1, His Tag (Cat. No. VC1-H5224) immobilized on CM5 Chip can bind Human ITGA4&ITGB1 Heterodimer Protein, His Tag&Tag Free (Cat. No. IT1-H52W1) with an affinity constant of 51.3 nM as determined in a SPR assay (Biacore 8K) (Routinely tested).

Background

Integrins are transmembrane proteins that mediate interactions between adhesion molecules on adjacent cells and/or the extracellular matrix (ECM). Integrins have diverse roles in several biological processes including cell migration during development and wound healing, cell differentiation, and apoptosis. Their activities can also regulate the metastatic and invasive potential of tumor cells. Integrin alpha 4 beta 1 (Alpha-4/beta-1) is receptors for fibronectin. Integrin alpha-4/beta-1 is a receptor for VCAM1 and recognizes the sequence Q-I-D-S in VCAM1.

Clinical and Translational Updates

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