



### Synonym

Integrin alpha 2 beta 1, ITGA2 & ITGB1

### Source

Human ITGA2&ITGB1 Heterodimer Protein, His Tag&Tag Free (IT1-H52W6) is expressed from human 293 cells (HEK293). It contains AA Tyr 30 - Thr 1132 (ITGA2) & Gln 21 - Asp 728 (ITGB1) (Accession # [P17301-1](#) (ITGA2) & [P05556-1](#) (ITGB1)).

Predicted N-terminus: Tyr 30 (ITGA2) & Gln 21 (ITGB1)

### Molecular Characterization

ITGA2 (Tyr 30 - Thr 1132) P17301-1	Acidic Tail	Poly-his
ITGB1 (Gln 21 - Asp 728) P05556-1	Basic Tail	

Human ITGA2&ITGB1 Heterodimer Protein, His Tag&Tag Free, produced by co-expression of ITGA2 and ITGB1, has a calculated MW of 127.6 kDa (ITGA2) and 83.7 kDa (ITGB1). Subunit ITGA2 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 reducing (R) protein migrates as 150-160 kDa (ITGA2) and 105-135 kDa (ITGB1) when calibrated against [Star Ribbon Pre-stained Protein Marker](#) respectively due to glycosylation.

### Endotoxin

Less than 1.0 EU per µg by the LAL method.

### Purity

>95% 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

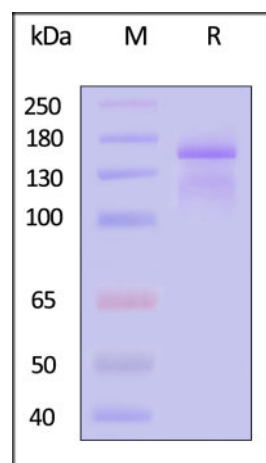
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

*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

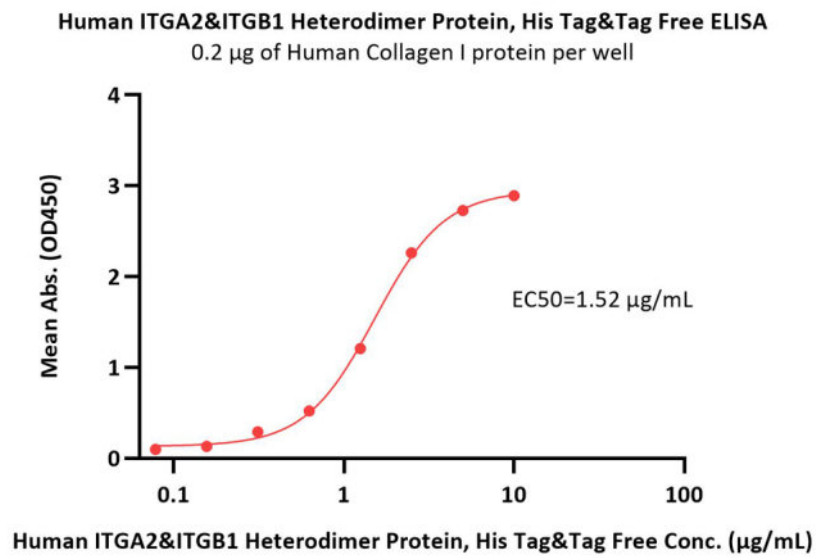


Human ITGA2&ITGB1 Heterodimer Protein, His Tag&Tag Free on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 95% (With [Star Ribbon Pre-stained Protein Marker](#)).

### Bioactivity-ELISA

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Immobilized Human Collagen I protein at 2 µg/mL (100 µL/well) can bind Human ITGA2 & ITGB1 Heterodimer Protein (Cat. No. IT1-H52W6) with a linear range of 0.078-2.5µg/mL (QC tested).

## Background

Integrin alpha 2 beta 1 is one of twelve integrin family adhesion receptors that share the beta 1 subunit. It is a receptor for laminin, collagen, collagen C-propeptides, fibronectin and E-cadherin. It recognizes the proline-hydroxylated sequence G-F-P-G-E-R in collagen. It is responsible for adhesion of platelets and other cells to collagens, modulation of collagen and collagenase gene expression, force generation and organization of newly synthesized extracellular matrix. Integrin ITGA2:ITGB1 acts as a receptor for Human rotavirus A and Human echoviruses 1 and 8. DGEA inhibited rotavirus binding to alpha2beta1 and infectivity. In a novel process, integrin-using viruses bind the alpha2 I domain of alpha2beta1 via DGE in VP4 and interact with alphaXbeta2 (via GPR) and alphaVbeta3 by using VP7 to facilitate cell entry and infection.

## Clinical and Translational Updates

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