



Synonym

Integrin alpha 2 beta 1, ITGA2 & ITGB1

Source

Rat ITGA2&ITGB1 Heterodimer Protein, His Tag&Tag Free (IT1-R52W9) is expressed from human 293 cells (HEK293). It contains AA Tyr 27 - Gly 1130 (ITGA2) & Gln 21 - Asp 729 (ITGB1) (Accession # [A0A0G2K470-1](#) (ITGA2) & [P49134-1](#) (ITGB1)).

Predicted N-terminus: Tyr 27 (ITGA2) & Gln 21 (ITGB1)

Molecular Characterization

ITGA2 (Tyr 27 - Gly 1130) A0A0G2K470-1	Acidic Tail	Poly-his
ITGB1 (Gln 21 - Asp 729) P49134-1	Basic Tail	

Rat 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 150-180 kDa (ITGA2) and 100-130 kDa (ITGB1) respectively due to 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, pH8.0 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

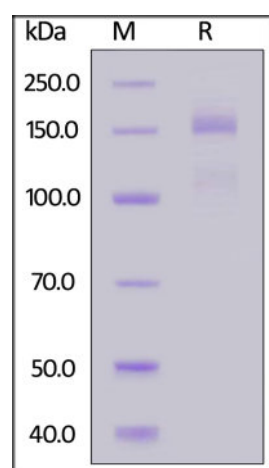
For long term storage, the product should be stored at lyophilized state at -20°C or lower.

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

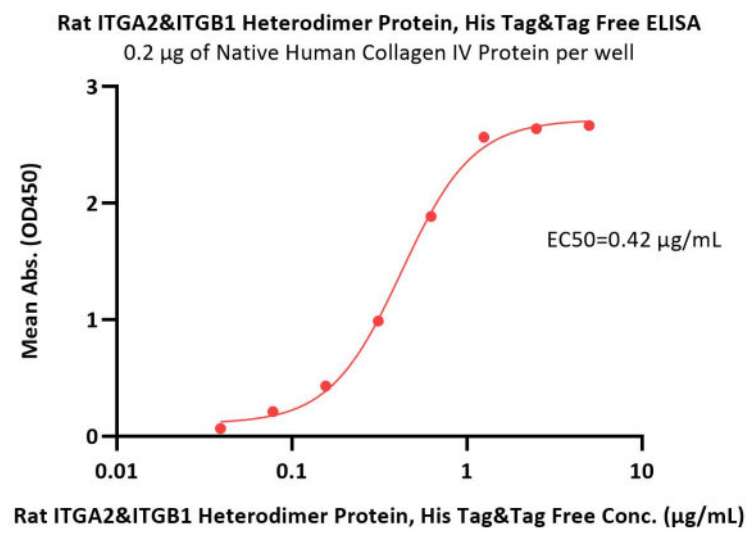


Rat ITGA2&ITGB1 Heterodimer Protein, His Tag&Tag Free on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 90%.

Bioactivity-ELISA

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Immobilized Native Human Collagen IV Protein at 2 µg/mL (100 µL/well) can bind Rat ITGA2&ITGB1 Heterodimer Protein, His Tag&Tag Free (Cat. No. IT1-R52W9) with a linear range of 0.039-0.625 µg/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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