

**Synonym**

Integrin alpha V beta 8,ITGAV&amp;ITGB8

**Source**

Rat Integrin alpha V beta 8 (ITGAV&ITGB8) Heterodimer, His Tag&Tag Free(IT8-R52E1) is expressed from human 293 cells (HEK293). It contains AA Phe 31 - Pro 988 & Gly 22 - Ser 679 (Accession # [NP\\_001385621.1](#) & [A0A0G2JVU1](#)).

Predicted N-terminus: Phe 31 | Gly 22

**Molecular Characterization**

ITGAV (Phe 31 - Pro 988) NP_001385621.1	Acidic Tail	Poly-his
ITGB8 (Glu 22 - Ser 679) A0A0G2JVU1	Basic Tail	

Rat ITGAV&ITGB8 Heterodimer Protein, His Tag&Tag Free, has a calculated MW of 113 kDa (ITGAV) & 77 kDa (ITGB8). Subunit ITGAV is fused with an acidic tail at the C-terminus and followed by a polyhistidine tag and subunit ITGB8 contains no tag but a basic tail at the C-terminus.

**Endotoxin**

Less than 1.0 EU per µg by the LAL method.

**Purity**

&gt;95% as determined by SDS-PAGE.

&gt;90% as determined by SEC-MALS.

**Formulation**

Lyophilized from 0.22 µm filtered solution in 50 mM Tris, 150 mM NaCl,pH 7.5 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.*

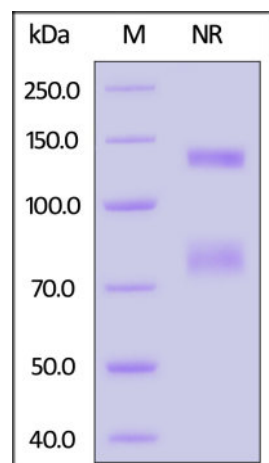
**Storage**

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

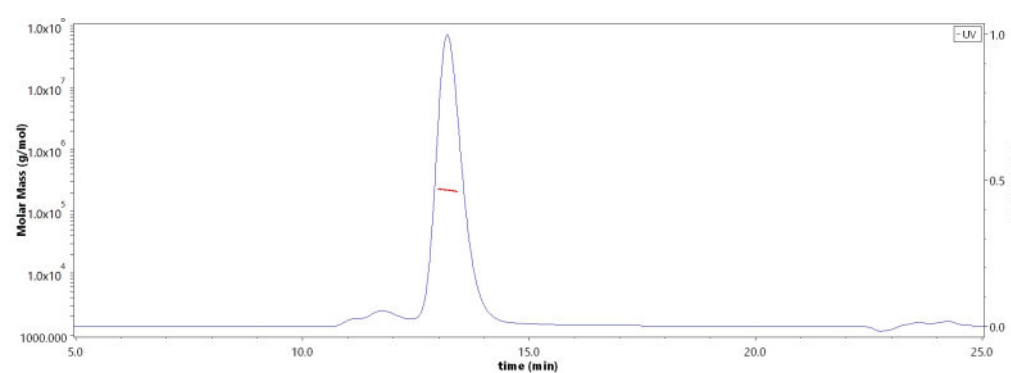
*Please avoid repeated freeze-thaw cycles.*

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**

Rat Integrin alpha V beta 8 (ITGAV&ITGB8) Heterodimer, 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 95%.

**Bioactivity-ELISA****SEC-MALS**

The purity of Rat Integrin alpha V beta 8 (ITGAV&ITGB8) Heterodimer, His Tag&Tag Free (Cat. No. IT8-R52E1) is more than 90% and the molecular weight of this protein is around 200-230 kDa verified by SEC-MALS.

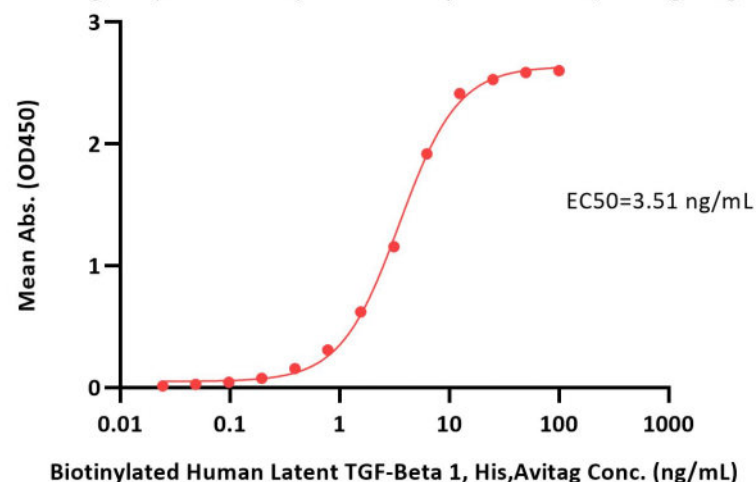
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**Rat Integrin alpha V beta 8 (ITGAV&ITGB8) Heterodimer, His Tag&Tag Free ELISA**

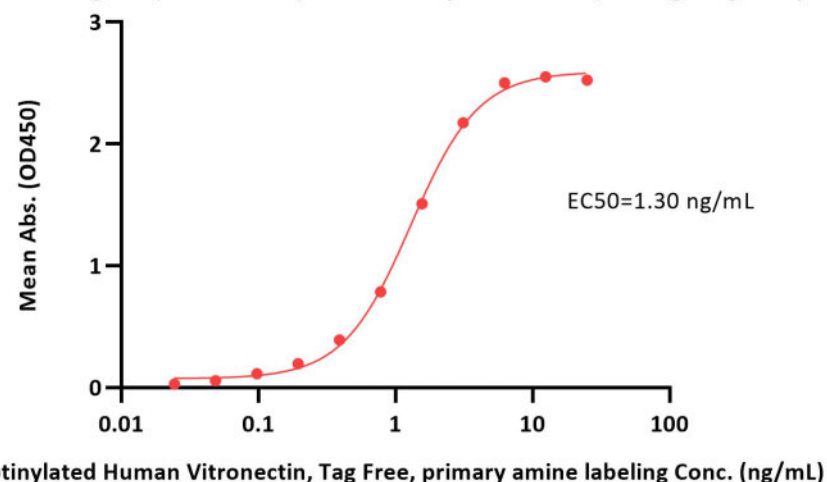
0.5 µg of Rat Integrin alpha V beta 8 (ITGAV&amp;ITGB8) Heterodimer, His Tag&amp;Tag Free per well



Immobilized Rat Integrin alpha V beta 8 (ITGAV&ITGB8) Heterodimer, His Tag&Tag Free (Cat. No. IT8-R52E1) at 5 µg/mL (100 µL/well) can bind Biotinylated Human Latent TGF-Beta 1, His,Avitag (Cat. No. TG1-H82Qb) with a linear range of 0.2-13 ng/mL (QC tested).

**Rat Integrin alpha V beta 8 (ITGAV&ITGB8) Heterodimer, His Tag&Tag Free ELISA**

0.5 µg of Rat Integrin alpha V beta 8 (ITGAV&amp;ITGB8) Heterodimer, His Tag&amp;Tag Free per well



Immobilized Rat Integrin alpha V beta 8 (ITGAV&ITGB8) Heterodimer, His Tag&Tag Free (Cat. No. IT8-R52E1) at 5 µg/mL (100 µL/well) can bind Biotinylated Human Vitronectin with a linear range of 0.1-3 ng/mL (Routinely tested).

## Background

Integrin alpha V beta 8 (ITGAV & ITGB8 or ITGAVB8) is expressed in yolk sac, placenta, brain perivascular astrocytes, Schwann cells, renal glomerular mesangial cells and pulmonary epithelial cells. Unlike other alpha V integrins, ITGAVB8 does not appear to assume different activation states, and the cytoplasmic tail does not connect to the cytoskeleton. It binds ligands containing an RGD motif, including vitronectin, fibrin and the latency associated peptide (LAP) of the latent TGF-beta complex. High affinity binding of alpha V beta 8 to LAP allows proteolytic cleavage by MT1-MMP, which releases active TGF-beta. This mechanism differs from that of alpha V beta 6, the other alpha V integrin which can activate TGF-beta from latency through non-proteolytic mechanisms. Downstream effects of TGF-beta activation include control of cell growth and associated vascularization.

## Clinical and Translational Updates

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