

## Integrin alpha V beta 8 Protein, Human, Recombinant (His) V2

### General Information

Synonyms:	Integrin alpha V $\beta$ 8; Integrin $\alpha$ V $\beta$ 8
Protein Construction:	Phe31-Val992&Glu43-Arg684
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P06756&P26012
Molecular Weight:	111.3 & 75.4 kDa (Predicted); 125-160 & 80-100 kDa (Reducing conditions)

### QC Testing

Biological Activity:	Activity has not been tested. It is theoretically active, but we cannot guarantee it.
Purity:	> 95% as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/ $\mu$ g of the protein as determined by the LAL method.
Formulation:	Lyophilized from a 0.2 $\mu$ m filtered solution of 50 mM Tris-HCl, 100 mM NaCl, pH 8.0.

### Preparation and Storage

#### Reconstitution:

Reconstitute the lyophilized protein in sterile deionized water. The product concentration should not be less than 100  $\mu$ g/mL. Before opening, centrifuge the tube to collect powder at the bottom. After adding the reconstitution buffer, avoid vortexing or pipetting for mixing.

#### Stability & Storage:

Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months.

Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

#### Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

Integrin alpha V beta 8 is one of five alpha V integrins, 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.

## A DRUG SCREENING EXPERT

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Downstream effects of TGF-beta activation include control of cell growth and associated vascularization. Deletion of either alpha V or beta 8 reveals that alpha V beta 8 is required for vascular morphogenesis in the embryonic brain and yolk sac.

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