

**Synonym**

LRRC32 &amp; TGF-beta 1, LRRC32&amp;TGFB1

**Source**

Human LRRC32&TGFB1 Heterotrimer protein, His Tag&Tag Free (GA1-H52W9) is expressed from human 293 cells (HEK293). It contains AA His 20 - Asn 627 (LRRC32) & Leu 30 - Ser 390 (TGF-beta 1) (Accession # [Q14392-1](#) (LRRC32) & [P01137-1](#) (TGF-beta1)).

Predicted N-terminus: Leu 30

**Molecular Characterization**

Human LRRC32&TGFB1 Heterotrimer protein, His Tag&Tag Free (the molar ratio of LRRC32 & TGF-beta 1 equals 1:2) is produced by co-expression of LRRC32 and TGF-beta 1, which has a calculated MW of 68.0 kDa (LRRC32), 28.5 (LAP) and 12.8 kDa (mature TGF-beta 1) respectively. LRRC32 is fused with a polyhistidine tag at the C-terminus and TGF-beta 1 contains no tag. The reducing (R) Heterotrimer protein migrates as 70 kDa (LRRC32), 38-45 kDa (LAP) and 14 kDa (mature TGF-beta 1) when calibrated against [Star Ribbon Pre-stained Protein Marker](#) due to glycosylation respectively.

**Endotoxin**Less than 1.0 EU per  $\mu$ g by the LAL method / rFC method.**Purity**

&gt;90% as determined by SDS-PAGE.

**Formulation**Lyophilized from 0.22  $\mu$ m filtered solution in PBS, pH7.4 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.

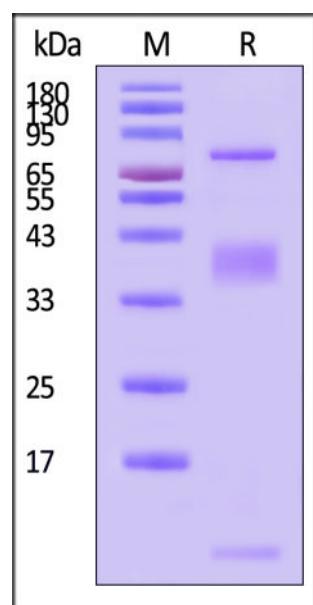
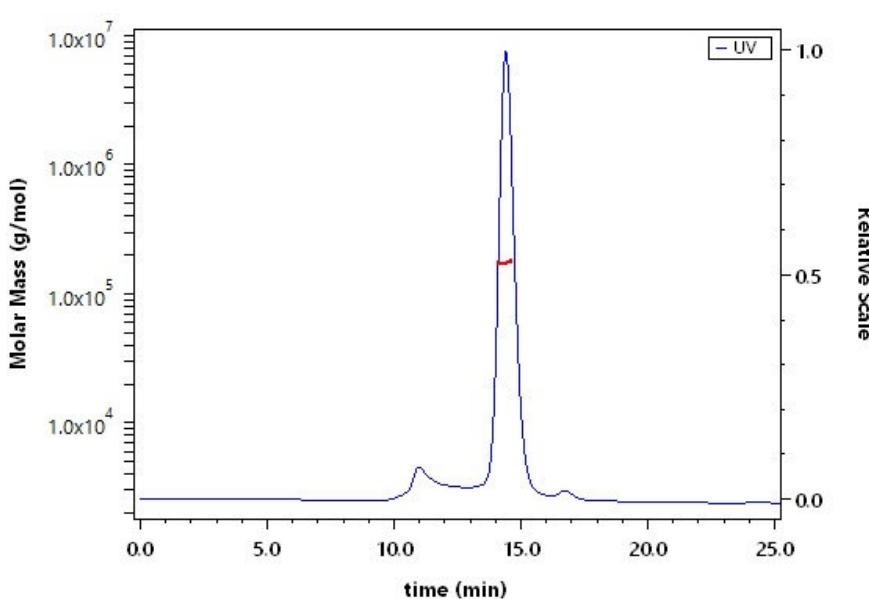
**Please avoid repeated freeze-thaw cycles.**

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.

**ACRO Quality Management System**

- [QMS\(ISO, GMP\)](#)
- [Quality Advantages](#)
- [Quality Control Process](#)

**SDS-PAGE****SEC-MALS**

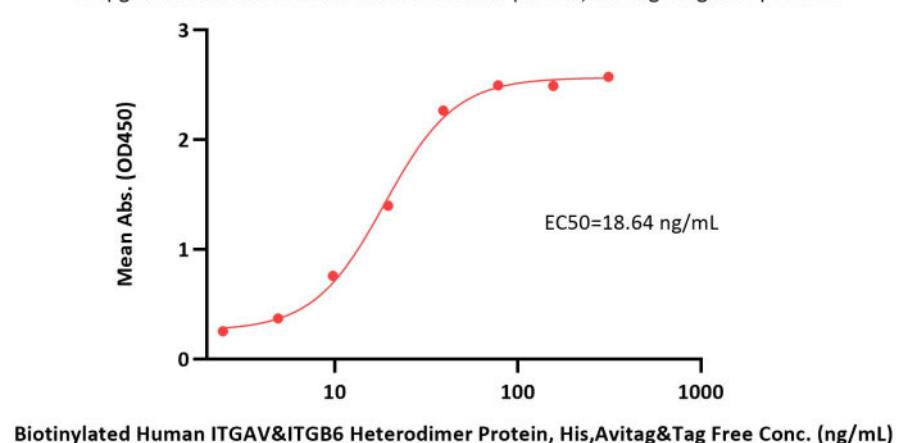
Human LRRC32&TGFB1 Heterotrimer protein, His Tag&Tag Free on SDS-PAGE. The purity of Human LRRC32&TGFB1 Heterotrimer protein, His Tag&Tag Free under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 90% (With [Star Ribbon Pre-stained Protein Marker](#)).

The purity of Human LRRC32&TGFB1 Heterotrimer protein, His Tag&Tag Free (Cat. No. GA1-H52W9) is more than 85% and the molecular weight of this protein is around 135-180 kDa verified by SEC-MALS.

## Bioactivity-ELISA

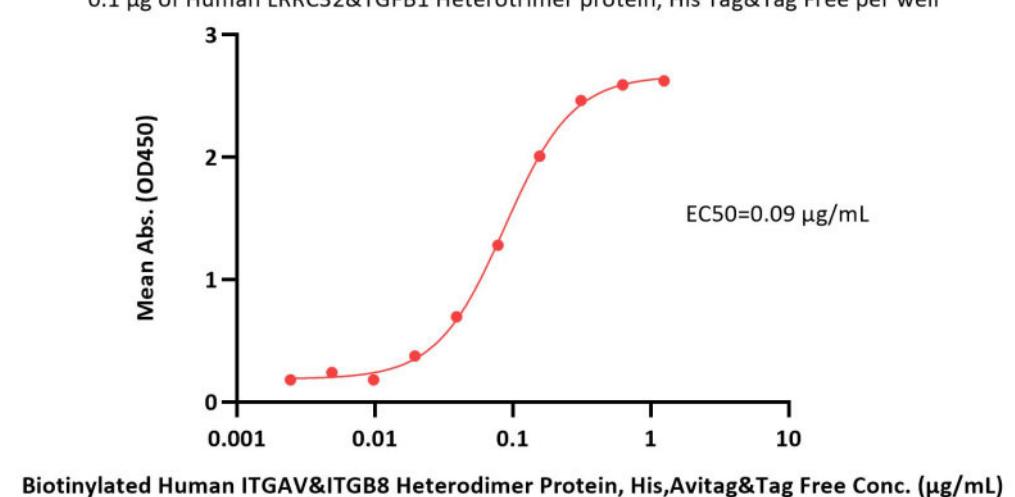
### Biotinylated Human ITGAV&ITGB6 Heterodimer Protein, His,Avitag&Tag Free ELISA

0.1 µg of Human LRRC32&TGFB1 Heterotrimer protein, His Tag&Tag Free per well



### Human LRRC32&TGFB1 Heterotrimer protein, His Tag&Tag Free ELISA

0.1 µg of Human LRRC32&TGFB1 Heterotrimer protein, His Tag&Tag Free per well



Immobilized Human LRRC32&TGFB1 Heterotrimer protein, His Tag&Tag Free (Cat. No. GA1-H52W9) at 1 µg/mL (100 µL/well) can bind Biotinylated Human ITGAV&ITGB6 Heterodimer Protein, His,Avitag&Tag Free (Cat. No. IT6-H82E4) with a linear range of 2-39 ng/mL (Routinely tested).

Immobilized Human LRRC32&TGFB1 Heterotrimer protein, His Tag&Tag Free (Cat. No. GA1-H52W9) at 1 µg/mL (100 µL/well) can bind Biotinylated Human ITGAV&ITGB8 Heterodimer Protein, His,Avitag&Tag Free (Cat. No. IT8-H82W5) with a linear range of 0.002-0.313 µg/mL (Routinely tested).

## Background

GARP (LRRC32) is a transmembrane protein that binds latent-TGF- $\beta$ 1 and tethers it on the Treg surface, and has been proved to promote the activation and secretion of transforming growth factor  $\beta$  (TGF- $\beta$ ). The expression of GARP is highly on the surface activated Tregs and increases the suppressive function of Tregs. Additionally, GARP can bind to latent transforming growth factor  $\beta$  (TGF- $\beta$ ), thus promoting secretion and activation of TGF- $\beta$ . TGF- $\beta$  plays a critical role for homeostasis and function of Tregs. Notably, it has been also observed that fibroblasts and endothelial cell lines that express GARP/latent TGF- $\beta$ 1 complexes do not activate TGF- $\beta$ 1. However, it cannot be excluded that specific stimuli are required to trigger TGF- $\beta$ 1 activation from complexes on the surface of these cell types.

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