



Recombinant Protein Technical Manual  
Recombinant Mouse TWSG1/TSG Protein (His Tag)  
RPES4372

#### Product Data:

**Product SKU:** RPES4372

**Size:** 50µg

**Species:** Mouse

**Expression host:** HEK293 Cells

**Uniprot:** Q9EP52

#### Protein Information:

**Molecular Mass:** 23.6 kDa

**AP Molecular Mass:** 34 kDa

**Tag:** C-His

**Bio-activity:**

**Purity:** > 93 % as determined by SDS-PAGE

**Endotoxin:** < 1.0 EU per µg of the protein as determined by the LAL method.

**Storage:** Lyophilized proteins are stable for up to 12 months when stored at -20 to -80°C. Reconstituted protein solution can be stored at 4-8°C for 2-7 days. Aliquots of reconstituted samples are stable at < -20°C for 3 months.

**Shipping:** This product is provided as lyophilized powder which is shipped with ice packs.

**Formulation:** Lyophilized from sterile PBS, pH 7.4

**Reconstitution:** Please refer to the printed manual for detailed information.

**Application:**

**Synonyms:** 1810013J15Rik;9030422N06Rik;AW552143;D17Ert403e;Tsg;Tsg

## Immunogen Information:

**Sequence:** Met 1-Phe 222

## Background:

TWSG1 belongs to the twisted gastrulation protein family. TWSG1 from different species are functionally equivalent. In contrast to *Drosophila* where TWSG1 expression is limited to early embryos, expression of TWSG1 is found throughout mouse and human development. Mutations in the TWSG1 gene cause at least some of the cells on the dorsal half of the embryo to adopt more ventral cell fates. This is thought to involve gradients of the signaling molecule decapentaplegic. TWSG1 may function as a bone morphogenetic protein signalling agonist or antagonize these activities. It can dislodge latent bone morphogenetic proteins and thus provides a permissive signal that allows high BMP signaling in the embryo. TWSG1 is a cofactor in the antagonism of chordin to BMP signaling. It also binds both the vertebrate Decapentaplegic ortholog BMP4 and chordin and forms ternary complexes. Meanwhile, TWSG1 increases binding of chordin to BMP4, potentiates the ability of chordin to induce secondary axes in *Xenopus* embryos, and enhances chordin cleavage by vertebrate proteases related to tolloid at a site poorly used in the absence of TWSG1. The presence of TWSG1 enhances the secondary axis-inducing activity of 2 products of chordin cleavage.