

Mouse TWSG1 Protein (His Tag)

Catalog Number: 50162-M08H



Sino Biological Inc.
Biological Solution Specialist

General Information

Gene Name Synonym:

TSG; 1810013J15Rik; 9030422N06Rik; AW552143; D17Ert403e; Tsg; Twg

Protein Construction:

A DNA sequence encoding the mouse TWSG1 (Q9EP52) (Met 1-Phe 222) was expressed, with a C-terminal polyhistidine tag.

Source: Mouse

Expression Host: Human Cells

QC Testing

Purity: > 93 % as determined by SDS-PAGE

Endotoxin:

< 1.0 EU per µg of the protein as determined by the LAL method

Stability:

Samples are stable for up to twelve months from date of receipt at -70 °C

Predicted N terminal: Cys 25

Molecular Mass:

The secreted recombinant mouse TWSG1 comprises 209 amino acids and has a calculated molecular mass of 23.6kDa. As a result of glycosylation, the apparent molecular mass of the recombinant protein is approximately 34 kDa in SDS-PAGE under reducing conditions.

Formulation:

Lyophilized from sterile PBS, pH 7.4

Normally 5 % - 8 % trehalose, mannitol and 0.01% Tween80 are added as protectants before lyophilization. Specific concentrations are included in the hardcopy of COA. Please contact us for any concerns or special requirements.

Usage Guide

Storage:

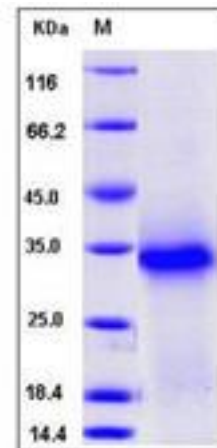
Store it under sterile conditions at -20°C to -80°C upon receiving. Recommend to aliquot the protein into smaller quantities for optimal storage.

Avoid repeated freeze-thaw cycles.

Reconstitution:

Detailed reconstitution instructions are sent along with the products.

SDS-PAGE:



Protein Description

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.

References

- 1.Tzachanis D, *et al.* (2007) Twisted gastrulation (Tsg) is regulated by Tob and enhances TGF-beta signaling in activated T lymphocytes. *J Immunol.* 109 (7): 2944-52.
- 2.Tanno T, *et al.* (2009) Identification of TWSG1 as a second novel erythroid regulator of hepcidin expression in murine and human cells. *Blood.* 114 (1): 181-6.
- 3.Kauvar EF, *et al.* (2011) Minimal evidence for a direct involvement of twisted gastrulation homolog 1 (TWSG1) gene in human holoprosencephaly. *Mol Genet Metab.* 102 (4): 470-80.

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