

# PRODUCT DATA SHEET



Bioworld Technology, Inc.

## Recombinant TSG, His, Human

Catalog Number: BK0334-50µg

Source: HEK 293

Quantity: 50µg

### Description:

Twisted gastrulation (TWSG1 or TSG) is a cysteine-rich 24 kDa glycoprotein. It is a secreted BMP binding protein that modulates BMP ligand availability in extracellular space. Human TSG shares 98% aa identity with mouse and rat TSG, and 99.5% aa identity with canine, equine, bovine and porcine TSG. Glycosylation and bioactivity of TWSG1 recombinant proteins vary markedly by cellular source. Non-glycosylated hTWSG1 made in E. coli has both reduced affinity for BMPs, as shown by surface plasmon resonance analysis, and reduced BMP inhibitory activity in a mandibular explant culture system compared to glycosylated proteins made in insect cells or mouse myeloma cells. Recombinant human Twisted Gastrulation (TSG), produced in HEK 293 cells is a polypeptide chain containing 211 amino acids. A fully biologically active molecule, rhTSG has a molecular mass of 30~33 kDa analyzed by reducing SDS-PAGE and is obtained by chromatographic techniques at GenScript.

### Molecular Weight:

30-33 kDa, observed by reducing SDS-PAGE.

### Purity:

> 95% as analyzed by SDS-PAGE and HPLC.

### Biological Activity:

Determined by its ability to neutralize BMP-6 induced alkaline phosphatase production by ATDC-5 chondrogenic cells. The ED50 for this effect is < 2 µg/ml of TSG.

### Physical Appearance:

Sterile Filtered White lyophilized (freeze-dried) powder.

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### Formulation:

Lyophilized after extensive dialysis against PBS.

### AA Sequence:

HHHHHHHHHCNKAL-  
CASDVSCLKLIQELCQCRPGEGNCSCCKECLMLCL  
GALWDEC-  
CDCVGM CNPRNYS DTPPTS KSTVEEL-  
HEPIPSLFRALTEGDTQLNWNIVSFPVAEELSH-  
HENLVSFLETVNQPHHQNVSV-  
SNNVHAPYSSDKEHMCTVVYFDDCMSIHQCK-  
ISCESMGASKYRWFHNACCECIGPE-  
CIDYGSKTVKCMNCF

### Endotoxin:

< 0.2 EU/µg, determined by LAL method.

### Reconstitution:

Reconstituted in ddH<sub>2</sub>O or PBS at 100 µg/ml.

### Storage:

Lyophilized recombinant Human Twisted Gastrulation (TSG), remains stable up to 6 months at -80 °C from date of receipt. Upon reconstitution, Human Twisted Gastrulation should be stable up to 1 week at 4 °C or up to 2 months at -20 °C.

### Usage:

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