

TSG, His, Human

Cat. No.: Z03293-50

Size: 50.0 ug

Synonyms: Twisted Gastrulation Protein

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.

Source: HEK 293

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.

Molecular Weight: 30-33 kDa, observed by reducing SDS-PAGE.

Formulation: Lyophilized after extensive dialysis against PBS.

Reconstitution: Reconstituted in ddH₂O or PBS at 100 µg/ml.

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

Endotoxin Level: < 0.2 EU/µg, determined by LAL method.

Storage: Lyophilized recombinant Human Twisted Gastrulation (TSG), remains stable up to 6 months at lower than -70°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.