

Product Information

Transforming Growth Factor- β Soluble Receptor III (TGF- β sRIII)

Human, Recombinant
Expressed in mouse NSO cells

Product Number **T4567**

Product Description

Transforming Growth Factor- β soluble Receptor III (TGF- β sRIII) is produced from a DNA sequence encoding the amino terminal (781 amino acid residue) extracellular domain of human TGF- β receptor type III protein.¹ Mature human TGF- β sRIII, a 760 amino acid residue protein generated after cleavage of a 21 amino acid residue signal peptide, has a predicted molecular mass of approximately 84 kDa. As a result of glycosylation, recombinant TGF- β sRIII migrates as a 100 kDa protein in SDS-PAGE.

The transforming growth factor- β (TGF- β) family of cytokines are multifunctional peptides; capable of influencing cell proliferation, growth, differentiation, and other functions in a wide range of cell types. Most mammalian cells express three abundant high affinity TGF receptors, which can bind and be cross-linked to TGF- β .² The type I and type II receptors are membrane-bound serine/threonine kinases. Both receptors are essential for signal transduction. The TGF- β type III receptor, or betaglycan, is a trans membrane proteoglycan with a large extracellular domain and a short cytoplasmic domain that has no apparent signaling motif.³ TGF- β receptor III binds TGF- β 2 with high affinity and also binds the other isoforms of TGF- β with lower affinities.⁴ The main role of TGF- β RIII seems to be in binding and then presenting TGF- β ligand to the signaling receptors TGF- β RI and TGF- β RII.⁵ Over-expression of TGF- β RIII in L6 myoblasts leads to a dramatic increase in the binding of TGF- β 2 to TGF- β RI and TGF- β RII. Recombinant TGF- β soluble receptor III binds the TGF- β isoforms differentially in solution and exhibits TGF- β antagonistic activities *in vitro*.

Reagent

Recombinant human TGF- β sRIII is supplied as approximately 100 μ g of protein lyophilized from a 0.2 μ m filtered solution in phosphate buffered saline (PBS) containing 5 mg of bovine serum albumin.

Preparation Instructions

Reconstitute the contents of the vial using sterile phosphate-buffered saline (PBS) containing at least 0.1% human serum albumin or bovine serum albumin. Prepare a stock solution of no less than 20 μ g/ml.

Storage/Stability

Store at -20 °C. Upon reconstitution, store at 2 °C to 8 °C for one month. For extended storage, freeze in working aliquots. Repeated freezing and thawing is not recommended. Do not store in a frost-free freezer.

Product Profile

Recombinant human TGF- β soluble Receptor III is measured by its ability to inhibit the TGF- β 2 mediated response of a mouse T cell line, HT-2.⁶ Approximately 20 ng/ml to 50 ng/ml of recombinant human TGF- β soluble Receptor III will inhibit 50 % of the biological response in the presence of 0.4 ng/ml of TGF- β 2.

References

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5. Lopez-Casillas, F., et al., Betaglycan presents ligand to the TGF beta signaling receptor. *Cell*, **73**, 1435-1444 (1993).
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