cellsciences.com

Recombinant Human sCD105/Endoglin

Catalog No:	CRC806A	**Size:** 5 µg
	CRC806B	**Size:** 25 µg

Description: A DNA sequence encoding the extracellular domain of human Endoglin (Met 1-Leu 586) was expressed in insect cells. Human Endoglin is a disulfide-linked homodimeric protein. Based on N-terminal sequence analysis, the primary structure of recombinant mature Endoglin starts at Glu 26. Endoglin has a calculated monomeric molecular mass of 61 kDa but as a result of glycosylation, migrates at approximately 75-85 kDa under reducing conditions in SDS-PAGE. Endoglin, also known as CD105, is a Type I integral membrane glycoprotein with a large, disulfide-linked, extracellular region and a short, constitutively phosphorylated, cytoplasmic tail. Two splice variants of human Endoglin, the S-Endoglin and L-Endoglin that differ in the length of their cytoplasmic tails have been identified. Endoglin is highly expressed on vascular endothelial cells, chondrocytes, and syncytiotrophoblasts of term placenta. It is also found on activated monocytes, bone marrow pro-erythroblasts, and leukemic cells of lymphoid and myeloid lineages. Human and mouse Endoglin share approximately 70% and 97 % amino acid sequence identity in their extracellular and intracellular domains, respectively. In common with betaglycan (also named TßRIII), a proteoglycan that shares regions of sequence similarity, Endoglin is an accessory receptor for the TGF-beta super family ligand. Endoglin does not bind ligand by itself, but does so by associating with a ligand-binding serine/threonine kinase receptor. Endoglin binds TGF-beta1 and TGF-beta3 but not TGF-beta2 efficiently by associating with TGF-beta type II receptor (TßRII). It interacts with activin-A and BMP-7 using either the activin type II or type IIB receptors. In the case of BMP-2 which binds directly to the type I but not the type II BMP receptor, Endoglin binds via either BMPR-IA (ALK-3) or BMPR-1B (ALK-6). Although the consequence of Endoglin interactions on the functions of TGF-beta family ligand is poorly understood, Endoglin has clearly been shown to be required for angiogenesis and to play a key role in heart development. Mutations in human Endoglin or ALK-1 (another type I serine/threonine receptor) lead to the vascular disorder hereditary hemorrhagic telangiectasia (HHT). Mice heterozygous for Endoglin have been developed as disease models for HHT. Endoglin has been shown to be a powerful marker of neovascularization. It is also useful as a functional marker that defines long-term repopulating hematopoietic stem cells.

Source: Insect cells

Molecular Weight: ~90 kDa

Purity: > 95% (SDS-PAGE and visualized by Silver stain)

Endotoxin level: < 0.1 ng per µg of sCD105

Stabilizer: none

Buffer: none

Formulation: lyophilized

Biological Activity: Measured by its ability to bind with rhTGF-beta RII/Fc in a functional ELISA. Optimal dilutions should be determined by each laboratory for each application.

Reconstitution: The carrier-free protein should be used immediately upon reconstitution to avoid losses in activity due to non-specific binding to the inside surface of the vial. For long term storage as a dilute solution, a carrier protein *(e.*g. 0.1% HSA or BSA) should be added to the vial.

Stability: Upon reconstitution, this cytokine, in the presence of a carrier protein, can be stored under sterile conditions at -20°C to -70°C for three months without detectable loss of activity. **Avoid repeated freeze-thaw cycles.**

NOT FOR HUMAN USE. FOR RESEARCH ONLY. NOT FOR DIAGNOSTIC OR THERAPEUTIC USE.

Cell Sciences, Inc.
480 Neponset Street
Building 12A
Canton, MA 02021

Toll Free: 888 769-1246
Phone: 781 828-0610
Fax: 781 828-0542

E-mail: info@cellsciences.com
Web Site: www.cellsciences.com