

## DESCRIPTION

|                           |  |
|---------------------------|--|
| <b>Species Reactivity</b> | Mouse  |
| <b>Specificity</b>        | Detects mouse Endoglin/CD105 in ELISAs and Western blots. In sandwich immunoassays, less than 0.3% cross-reactivity with recombinant human Endoglin is observed. |
| <b>Source</b>             | Polyclonal Goat IgG  |
| <b>Purification</b>       | Antigen Affinity-purified  |
| <b>Immunogen</b>          | Mouse myeloma cell line NS0-derived recombinant mouse Endoglin/CD105<br>Glu27-Gly581<br>Accession # Q8K100   |
| <b>Formulation</b>        | Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.                                       |

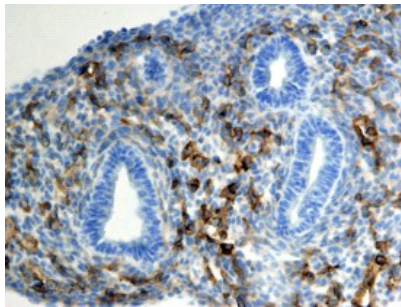
## APPLICATIONS

**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

|  | <b>Recommended Concentration</b> | <b>Sample</b>   |
|--|----------------------------------|---|
| <b>Western Blot</b>                              | 0.1 µg/mL                        | Recombinant Mouse Endoglin/CD105 Fc Chimera (Catalog # 1320-EN) |
| <b>Flow Cytometry</b>                            | 2.5 µg/10 <sup>6</sup> cells     | MS-1 mouse cell line  |
| <b>Immunohistochemistry</b>                      | 5-15 µg/mL                       | See Below   |
| <b>Mouse Endoglin/CD105 Sandwich Immunoassay</b> |                                  | <b>Reagent</b>  |
| <b>ELISA Capture</b>                             | 2-8 µg/mL                        | Mouse Endoglin/CD105 Antibody (Catalog # MAB13201)              |
| <b>ELISA Detection</b>                           | 0.1-0.4 µg/mL                    | Mouse Endoglin/CD105 Biotinylated Antibody (Catalog # BAF1320)  |
| <b>Standard</b>                                  |                                  | Recombinant Mouse Endoglin/CD105 Fc Chimera (Catalog # 1320-EN) |

## DATA

### Immunohistochemistry



**Endoglin/CD105 in Mouse Lung.** Endoglin/CD105 was detected in immersion fixed frozen sections of mouse lung using 15 µg/mL Goat Anti-Mouse Endoglin/CD105 Biotinylated Antigen Affinity-purified Polyclonal Antibody (Catalog # BAF1320) overnight at 4 °C. Tissue was stained with the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). View our protocol for [Chromogenic IHC Staining of Frozen Tissue Sections](#).

## PREPARATION AND STORAGE

|                                |   |
|--------------------------------|---|
| <b>Reconstitution</b>          | Reconstitute at 0.2 mg/mL in sterile PBS.   |
| <b>Shipping</b>                | The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.   |
| <b>Stability &amp; Storage</b> | <p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <ul style="list-style-type: none"> <li>• 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>• 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>• 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul> |

**BACKGROUND**

Endoglin (CD105) is a 90 kDa type I transmembrane glycoprotein of the zona pellucida (ZP) family of proteins (1-3). Endoglin and betaglycan/TβRIII are type III receptors for TGF beta superfamily ligands, sharing 71% amino acid (aa) identity within the transmembrane (TM) and cytoplasmic domains. Endoglin is highly expressed on proliferating vascular endothelial cells, chondrocytes, and syncytiotrophoblasts of term placenta, with lower amounts on hematopoietic, mesenchymal and neural crest stem cells, activated monocytes, and lymphoid and myeloid leukemic cells (2-5). Mouse Endoglin cDNA encodes 653 aa including a 26 aa signal sequence, a 555 aa extracellular domain (ECD) with an orphan domain and a two-part ZP domain, a TM domain, and a 47 aa cytoplasmic domain (1-3). A mouse isoform with a 35 aa cytoplasmic domain (S-endoglin) can oppose effects of long (L) Endoglin (6, 7). The mouse Endoglin ECD shares 69%, 84%, 62%, 63%, and 66% aa identity with human, rat, bovine, porcine, and canine Endoglin, respectively. Endoglin homodimers interact with TGF-β1 and TGF-β3 (but not TGF-β2) but only after binding TβRII (8). Similarly, they interact with activin-A and BMP-7 via activin type IIA or B receptors, and with BMP-2 via BMPR-1A/ALK-3 or BMPR-1B/ALK-6 (9). BMP-9, however, is reported to bind Endoglin directly (10). Endoglin modifies ligand-induced signaling in multiple ways. For example, expression of Endoglin can inhibit TGF-β1 signals but enhance BMP7 signals in the same myoblast cell line (11). In endothelial cells, Endoglin inhibits TβRI/ALK5, but enhances ALK1-mediated activation (12). Deletion of mouse Endoglin causes lethal vascular and cardiovascular defects, and human Endoglin haploinsufficiency can cause the vascular disorder, hereditary hemorrhagic telangiectasia type I (13, 14). These abnormalities confirm the essential function of Endoglin in differentiation of smooth muscle, angiogenesis, and neovascularization (2-4, 12-14). In preeclampsia of pregnancy, high levels of proteolytically generated soluble Endoglin and VEGF R1 (sFit-1), along with low placental growth factor (PlGF), are pathogenic due to antiangiogenic activity (15).

**References:**

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