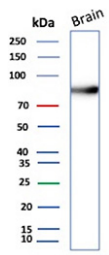
ENG Antibody / Endoglin / CD105 [clone r4G11] (V5873)

Catalog No.	Formulation	Size
V5873-100UG	0.2 mg/ml in 1X PBS with 0.05% BSA, 0.05% sodium azide	100 ug
V5873-20UG	0.2 mg/ml in 1X PBS with 0.05% BSA, 0.05% sodium azide	20 ug
V5873SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

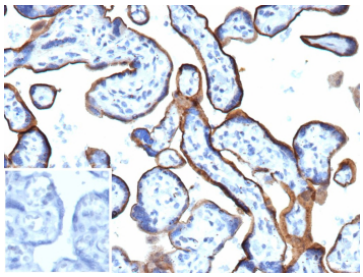
Recombinant MOUSE MONOCLONAL

Bulk quote request

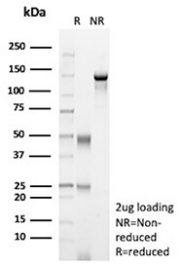
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Recombinant Mouse Monoclonal
Isotype	Mouse IgG2a, kappa
Clone Name	r4G11
UniProt	P17813
Localization	Cell membrane
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml Western Blot : 2-4ug/ml
Limitations	This ENG/Endoglin antibody is available for research use only.



Western blot analysis of human brain tissue lysate using recombinant ENG/Endoglin antibody (clone r4G11). This glycosylated protein is observed at molecular weight: 70-90 kDa (monomer) and 140-180 kDa (dimer).



Immunohistochemistry analysis of Endoglin (CD105) expression. Recombinant ENG/Endoglin antibody (clone r4G11) staining was performed on formalin-fixed, paraffin-embedded human placenta tissue, showing strong DAB-positive membranous staining outlining vascular endothelial cells within placental villi, with hematoxylin counterstaining. The inset shows a negative control processed in parallel using PBS in place of the primary antibody, demonstrating minimal background signal with secondary antibody only. Staining of formalin-fixed tissues requires heating tissue sections in 10mM Tris with 1mM EDTA, pH 9.0, for 45 min at 95oC followed by cooling at RT for 20 minutes.



SDS-PAGE Analysis of purified recombinant ENG/Endoglin antibody (clone r4G11). Confirmation of Purity and Integrity of Antibody.

Description

ENG antibody targets Endoglin, a homodimeric transmembrane glycoprotein encoded by the ENG gene and widely known as CD105. Endoglin is predominantly localized to the cell surface of endothelial cells, where it functions as an auxiliary receptor within the transforming growth factor beta signaling pathway. ENG expression is particularly high in proliferating and activated endothelial cells, reflecting its important role in vascular development, angiogenesis, and endothelial cell function. Endoglin antibody reagents are therefore commonly used in studies of vascular biology and tumor associated angiogenesis.

Functionally, Endoglin modulates signaling mediated by transforming growth factor beta family ligands by interacting with type I and type II receptors, influencing downstream SMAD-dependent pathways. A short functional summary is that ENG regulates endothelial cell proliferation, migration, and vascular remodeling during both physiological and pathological angiogenesis. Through this regulatory role, CD105 contributes to maintenance of vascular integrity and adaptive responses to hypoxia and tissue injury.

At the molecular level, Endoglin contains a large extracellular domain involved in ligand and receptor interactions, a single transmembrane region, and a short cytoplasmic tail that participates in intracellular signaling. ENG exists primarily as a disulfide linked homodimer at the cell surface. Clone r4G11 recombinant antibody is designed to recognize Endoglin and supports consistent detection of ENG expression in endothelial cells and vascular rich tissues in research settings.

From a biological and disease relevance perspective, ENG expression is strongly associated with neovascularization in solid tumors, inflammatory conditions, and wound healing. Endoglin is frequently used as a marker of tumor associated vasculature and microvessel density in cancer research. Genetic alterations in ENG are also linked to hereditary hemorrhagic telangiectasia, underscoring its critical role in vascular homeostasis. Clone r4G11 provides a reliable tool for investigating Endoglin expression in studies of angiogenesis, vascular pathology, and endothelial cell biology.

Developmentally, ENG is essential for normal vascular formation and endothelial cell differentiation. Its expression increases in response to angiogenic stimuli and endothelial activation. ENG antibodies from NSJ Bioreagents are supplied for research use to support investigations in angiogenesis, cancer biology, and vascular signaling.

Application Notes

1. Optimal dilution of the ENG/Endoglin antibody should be determined by the researcher.

2. This ENG/Endoglin antibody is recombinantly produced by expression in CHO cells.

Immunogen

Prokaryotic recombinant protein corresponding to a region of the external domain of the CD105 glycoprotein was used as the immunogen for the ENG/Endoglin antibody.

Storage

ENG/Endoglin antibody with sodium azide - store at 2 to 8oC; antibody without sodium azide - store at -20 to -80oC.