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iF700 Anti-mouse CD105 Antibody

Catalog Number:	208803, 208804
Size:	25 µg, 100 µg
Target Name:	CD105, CD-105, CD 105, Endoglin
Regulatory Status:	RUO

PRODUCT DETAILS

Clone:	MJ7/18
Application:	Flow Cytometry
Reactivity:	Mouse
Format:	iF700
Isotype:	Rat IgG2a, κ
Antibody Type:	Monoclonal
Formulation:	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and 0.2% (w/v) BSA
Protein Concentration:	0.2 mg/mL
Storage & Handling:	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. Do not freeze.
Recommended Usage:	For flow cytometric staining, it is recommended to use less than 0.5 µg of this reagent per 0.5-1.0 million cells in a 100 µL volume. Optimal reagent performance should be determined by titration for each specific application. iF700 has an excitation max at 690 nm and an emission max at 710 nm.
Excitation Laser:	Red Laser (633 nm)
Isotype Control:	303511
RRID:	AB_3759494

BACKGROUND INFORMATION

CD105, also known as endoglin, is a transmembrane glycoprotein that functions as an accessory co-receptor in transforming growth factor-beta (TGF-β) superfamily signaling. It is highly expressed on proliferating vascular endothelial cells and is commonly used as a marker of active angiogenesis. CD105 helps regulate endothelial-cell proliferation, migration, vascular remodeling, and blood-vessel formation. It is also expressed by certain mesenchymal stromal cells, activated monocytes, and other cell populations, although expression levels vary by tissue and physiological condition.

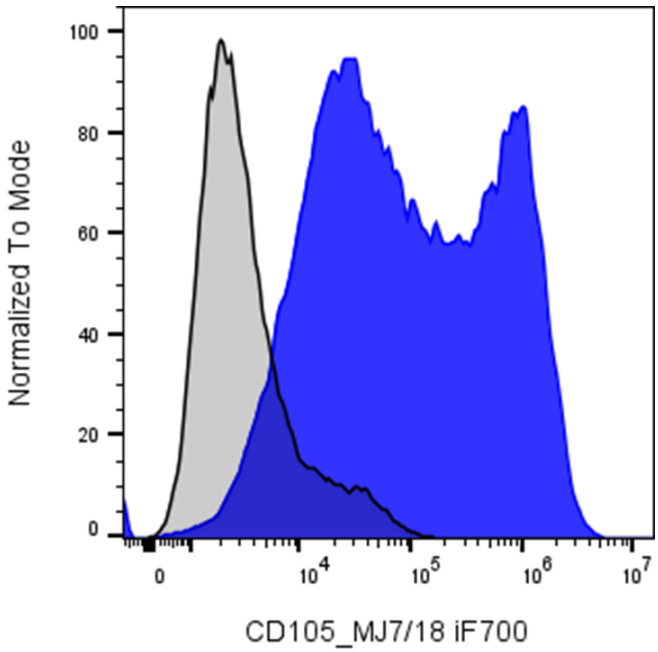
Structurally, CD105 is a type I transmembrane protein that forms a disulfide-linked homodimer. Each subunit contains a large extracellular domain, a single transmembrane segment, and a short cytoplasmic tail. The extracellular region includes an orphan domain and a zona pellucida-like domain involved in protein interactions and dimerization. CD105 does not function as a conventional signaling receptor on its own; instead, it associates with type I and type II receptors of the TGF-β superfamily. Its

principal interacting ligands are TGF-β1 and TGF-β3, and it can also participate in signaling involving bone morphogenetic proteins (BMPs), including BMP9 and BMP10, particularly in endothelial cells. These interactions help fine-tune signaling pathways that maintain vascular integrity and regulate angiogenesis.

CD105 has important implications in disease. Abnormal endoglin function is associated with hereditary hemorrhagic telangiectasia type 1, a genetic vascular disorder characterized by fragile blood vessels and arteriovenous malformations. CD105 is also frequently elevated in tumor-associated vasculature, where it supports angiogenesis and may contribute to tumor growth and progression. Because of its enrichment on actively proliferating endothelial cells, CD105 is widely investigated as a biomarker of tumor vascularization and disease prognosis.

Therapeutically, CD105 is a potential target for anti-angiogenic cancer strategies. Antibodies and other agents designed to inhibit CD105-mediated pathways may restrict tumor blood-vessel formation and complement existing cancer treatments. CD105 is also being explored as a target for imaging tumor vasculature and delivering therapeutic agents selectively to endothelial cells. However, because CD105 contributes to normal vascular homeostasis, therapeutic approaches must carefully balance antitumor activity with potential effects on healthy blood vessels.

PRODUCT DATA



HEK 293 cells transfected with the expression plasmids of mouse CD105 were stained with iF700 Anti-Mouse CD105 clone MJ7/18 (color-filled histogram) or an isotype control (gray histogram).

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