

Anti-Human CD105 Antibody, Clone 43A3, Alexa Fluor® 488



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Antibodies

Mouse monoclonal IgG1 antibody
against human, mouse CD105
(endoglin), Alexa Fluor® 488-
conjugated

Catalog #60039AD
#60039AD.1

100 Tests 5 µL/test
25 Tests 5 µL/test

Product Description

The 43A3 antibody reacts with CD105 (endoglin), an ~180 kDa cell surface glycoprotein which is a disulfide-bonded homodimer of ~90 kDa type I transmembrane subunits. CD105 is a component of the TGF-β receptor complex and is expressed by vascular endothelial smooth muscle cells, syncytiotrophoblasts of placenta and activated macrophages, and at relatively low levels by stromal fibroblasts. Its expression is also observed in some types of tumors, and levels are up-regulated on the endothelium during angiogenesis. In concert with signaling receptors, CD105 binds to TGF-β1 and TGF-β3 with high affinity, but does not bind TGF-β2. Other ligands reportedly include Activin A, BMP-2, and BMP-7. CD105 has important roles in angiogenesis, cardiovascular development, and vascular remodeling, and the protein serves a regulatory role in cytoskeletal reorganization by modulating the sites of focal adhesion and cellular migration. Certain mutations in CD105 result in the autosomal dominant disorder hereditary hemorrhagic telangiectasia.

Target Antigen Name:	CD105 (Endoglin)
Alternative Names:	Endoglin
Gene ID:	2022
Species Reactivity:	Human, Mouse
Host Species:	Mouse
Clonality:	Monoclonal
Clone:	43A3
Isotype:	IgG1, kappa
Immunogen:	L-cells transfected with human CD105
Conjugate:	Alexa Fluor® 488

Applications

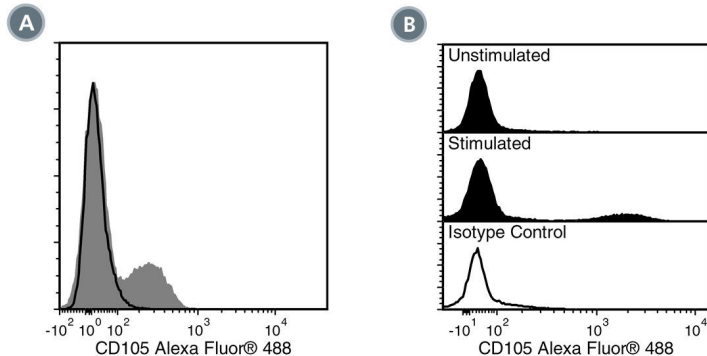
Verified:	FC
Reported:	FC
Special Applications:	This antibody clone has been verified for labeling human mesenchymal cells grown in MesenCult™ Proliferation Kit (Human; Catalog #05411).

Abbreviations: CellSep: Cell separation; ChIP: Chromatin immunoprecipitation; FA: Functional assay; FACS: Fluorescence-activated cell sorting; FC: Flow cytometry; ICC: Immunocytochemistry; IF: Immunofluorescence microscopy; IHC: Immunohistochemistry; IP: Immunoprecipitation; RIA: Radioimmunoassay; WB: Western blotting

Properties

Formulation:	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and 0.2% (w/v) bovine serum albumin
Purification:	The antibody was purified by affinity chromatography and conjugated with Alexa Fluor® 488 under optimal conditions. The solution is free of unconjugated Alexa Fluor® 488.
Stability and Storage:	Product stable at 2 - 8°C when stored undiluted. Do not freeze. Protect product from prolonged exposure to light. For product expiry date, please contact techsupport@stemcell.com .
Directions for Use:	For flow cytometry, the suggested use of this antibody is 5 µL per 1 x 10 ⁶ cells in 100 µL or per 100 µL of whole blood. It is recommended that the antibody be titrated for optimal performance for each application.

Data



(A) Flow cytometry analysis of human peripheral blood mononuclear cells (PBMCs) labeled with Anti-Human CD105 Antibody, Clone 43A3, Alexa Fluor® 488 (filled histogram) or a mouse IgG1, kappa Alexa Fluor® 488 isotype control antibody (solid line histogram).

(B) Flow cytometry analysis of human PBMCs cultured for 24 hours with or without lipopolysaccharide (LPS) and labeled with Anti-Human CD105 Antibody, Clone 43A3, Alexa Fluor® 488. Histograms show labeling of PBMCs cultured in the absence (Unstimulated) or presence (Stimulated) of LPS. Labeling of LPS-stimulated PBMCs with a mouse IgG1, kappa isotype control antibody, Alexa Fluor® 488 is shown (solid line histogram).

Related Products

For a complete list of antibodies, including other conjugates, sizes and clones, as well as related products available from STEMCELL Technologies, visit www.stemcell.com/antibodies or contact us at techsupport@stemcell.com.

References

1. Grau-Vorster M et al. (2019) HLA-DR expression in clinical-grade bone marrow-derived multipotent mesenchymal stromal cells: A two-site study. *Stem Cell Res Ther* 10(1): 1–8. (FC)
2. Crippa S et al. (2019) Bone marrow stromal cells from β -thalassemia patients have impaired hematopoietic supportive capacity. *J Clin Invest* 129(4): 1566–80. (FC)
3. Nishi H et al. (2017) Neutrophil Fc γ RIIA promotes IgG-mediated glomerular neutrophil capture via Abl / Src kinases. *J Clin Invest*. 127(10): 3810–26. (FA, Adhesion assay)
4. Bonnaure G et al. (2016) Bone marrow mesenchymal stem cells enhance the differentiation of human switched memory B lymphocytes into plasma cells in serum-free medium. *J Immunol Res* 2016. (FC)
5. O'Carroll SJ et al. (2015) Pro-inflammatory TNF α and IL-1 β differentially regulate the inflammatory phenotype of brain microvascular endothelial cells. *J Neuroinflammation* 12(1): 1–18. (FC)
6. Brandau S et al. (2014) Mesenchymal stem cells augment the anti-bacterial activity of neutrophil granulocytes. *PLoS One* 9(9): e106903. (FC)
7. Akiyama K et al. (2012) Characterization of bone marrow derived mesenchymal stem cells in suspension. *Stem Cell Res Ther* 3(5): 40. (WB)
8. Marolt D et al. (2012) Engineering bone tissue from human embryonic stem cells. *Proc Natl Acad Sci USA* 109(22): 8705–9. (FC)
9. Honmou O et al. (2011) Intravenous administration of auto serum-expanded autologous mesenchymal stem cells in stroke. *Brain* 134(6): 1790–807.
10. Osaka M et al. (2010) Intravenous administration of mesenchymal stem cells derived from bone marrow after contusive spinal cord injury improves functional outcome. *Brain Res* 1343: 226–35.
11. Vogel W et al. (2003) Heterogeneity among human bone marrow-derived mesenchymal stem cells and neural progenitor cells. *Haematologica* 88(2): 126–33 (FC, ICC)
12. Mason D et al. (Eds.). (2002) *Leucocyte Typing VII: White cell differentiation antigens*. New York: Oxford University Press. (FC)
13. Pierelli L et al. (2001) CD105 (endoglin) expression on hematopoietic stem/progenitor cells. *Leuk Lymphoma* 42(6): 1195–206.
14. Azuma H. (2000) Genetic and molecular pathogenesis of hereditary hemorrhagic telangiectasia. *J Med Invest* 47(3-4): 81–90.
15. Bourdeau A et al. (2000) Endoglin-deficient mice, a unique model to study hereditary hemorrhagic telangiectasia. *Trends Cardiovasc Med* 10(7): 279–85.
16. Gallione CJ et al. (1998) Mutation and expression analysis of the endoglin gene in hereditary hemorrhagic telangiectasia reveals null alleles. *Hum Mutat* 11(4): 286–94.
17. Altomonte M et al. (1996) Expression and structural features of endoglin (CD105), a transforming growth factor beta1 and beta3 binding protein, in human melanoma. *Br J Cancer* 74(10): 1586–91.
18. Wu X et al. (1995) Cloning and characterization of the murine activin receptor like kinase-1 (ALK-1) homolog. *Biochem Biophys Res Commun* 216(1): 78–83.
19. Bühring HJ et al. (1991) Endoglin is expressed on a subpopulation of immature erythroid cells of normal human bone marrow. *Leukemia* 5(10): 841–7.

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