

1P-298-T025

Monoclonal Antibody to CD105 Phycoerythrin (PE) conjugated (25 tests)

Clone:	MEM-226
Isotype:	Mouse IgG2a
Specificity:	The antibody MEM-226 reacts with CD105 (Endoglin), a 90 kDa type I homodimerizing membrane glycoprotein expressed on vascular endothelial cells (small and large vessels), activated monocytes and tissue macrophages, stromal cells of certain tissues including bone marrow, pre-B lymphocytes in fetal marrow and erythroid precursors in fetal and adult bone marrow; it is also present on syncytiotrophoblast on placenta throughout pregnancy.
Regulatory Status:	RUO
Immunogen:	Recombinant Vaccinia virus containing the human CD105 cDNA.
Species Reactivity:	Human, Rat
Preparation:	The purified antibody is conjugated with R-Phycoerythrin (PE) under optimum conditions. The conjugate is purified by size-exclusion chromatography and adjusted for direct use. No reconstitution is necessary.
Storage Buffer:	The reagent is provided in stabilizing phosphate buffered saline (PBS) solution containing 15mM sodium azide.
Storage / Stability:	Store in the dark at 2-8°C. Do not freeze. Avoid prolonged exposure to light. Do not use after expiration date stamped on vial label.
Usage:	The reagent is designed for Flow Cytometry analysis of human blood cells using 20 µl reagent / 100 µl of whole blood or 10 ⁶ cells in a suspension. The content of a vial (0.5 ml) is sufficient for 25 tests.
Expiration:	See vial label
Lot Number:	See vial label
Background:	CD105 (Endoglin) is a homodimeric transmembrane glycoprotein serving in presence of TGFbetaR-2 as a receptor for TGFbeta-1 and TGFbeta-3. CD105 is highly expressed on endothelial cells and promotes angiogenesis during wound healing, infarcts and in a wide range of tumours and its gene expression is stimulated by hypoxia. CD105 prevents apoptosis in hypoxic endothelial cells and also antagonises the inhibitory effects of TGFbeta-1 on vascular endothelial cell growth and migration. Normal cellular levels of CD105 are required for formation of new blood vessels.

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**Antibodies**

- References:**
- *Zhu Y, Sun Y, Xie L, Jin K, Sheibani N, Greenberg DA: Hypoxic induction of endoglin via mitogen-activated protein kinases in mouse brain microvascular endothelial cells. *Stroke*. 2003 Oct;34(10):2483-8.
 - *Li C, Issa R, Kumar P, Hampson IN, Lopez-Novoa JM, Bernabeu C, Kumar S: CD105 prevents apoptosis in hypoxic endothelial cells. *J Cell Sci*. 2003 Jul 1;116(Pt 13):2677-85.
 - *Guo B, Slevin M, Li C, Parameshwar S, Liu D, Kumar P, Bernabeu C, Kumar S: CD105 inhibits transforming growth factor-beta-Smad3 signalling. *Anticancer Res*. 2004 May-Jun;24(3a):1337-45.
 - *Warrington K, Hillarby MC, Li C, Letarte M, Kumar S: Functional role of CD105 in TGF-beta1 signalling in murine and human endothelial cells. *Anticancer Res*. 2005 May-Jun;25(3B):1851-64.
 - *Piao M, Tokunaga O: Significant expression of endoglin (CD105), TGFbeta-1 and TGFbeta R-2 in the atherosclerotic aorta: an immunohistological study. *J Atheroscler Thromb*. 2006 Apr;13(2):82-9.
 - *Schmidt D, Achermann J, Odermatt B, Breyman C, Mol A, Genoni M, Zund G, Hoerstrup SP: Prenatally fabricated autologous human living heart valves based on amniotic fluid derived progenitor cells as single cell source. *Circulation*. 2007 Sep 11;116(11 Suppl):I64-70.
 - *Asumda FZ, Chase PB: Age-related changes in rat bone-marrow mesenchymal stem cell plasticity. *BMC Cell Biol*. 2011 Oct 12;12:44.

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