CD133 protein-coupled magnetic MicroBeads

Cat. No. CD133-452M **Lot. No.** (See product label)

SPECIFICATION

Product Overview	
Species	Human
Capacity	for 2×10^9 total cells
Background	CD133, formerly known as AC133, recognizes epitope 1 of the CD133 antigen. It is a marker that is frequently found on multipotent progenitor cells, including immature hematopoietic stem and progenitor cells. In the hematopoietic system, CD133 is expressed on a small portion of CD34– cells as well as on a subset of CD34bright stem and progenitor cells in human fetal liver, bone marrow, cord blood, and peripheral blood5. CD133 has also been found to be expressed on circulating endothelial progenitor cells; fetal neural stem cells; other tissue-specific stem cells, such as renal, prostate11, and corneal stem cells; cancer stem cells from tumor tissues; as well as ES and iPS cell-derived cells. There is a growing interest in CD133 antigen expressing stem cells from normal blood or bone marrow in the field of regenerative medicine, for example bone marrow-derived CD133+ stem cells in cardiovascular, liver, or peripheral artery diseases. The CD133 antibody included in the kit recognizes epitope CD133/1. For quality control staining of CD133-separated cells, the use of CD133/2 (293C3)-PE or -APC is recommended.
Application	Isolated from hematopoietic sources, CD133+ cells can become adherent and are reported to become CD133-negative during culture.These adherent cells can then in turn give rise to nonadherent CD133+ cells that are able to differentiate to both

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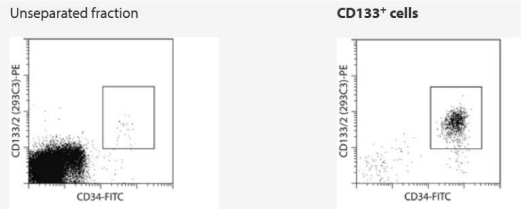
hematopoietic and nonhematopoietic cell types.
CD133+ cells have shown a capacity for tissue differentiation, including to neural lineages. CD133+ isolated from fetal liver, umbilical cord blood, bone marrow, mobilized blood, and skin are capable of in vitro differentiation to neuronal cells as well as to astrocytes, oligodendrocytes, and glial cells. CD133+ cells isolated from human fetal brain were able to form self-renewing neurospheres in vitro, and to differentiate into neurons and glia. When injected into mice, human CD133+ cells differentiated into fully integrated neurones and glial cells as well as astrocytes and endothelial cells. The CD34+CD133+ cell population, which includes CD34+CD38– cells, was shown to be capable of repopulating NOD/SCID mice.

Analysis



Separation of non-mobilized PBMCs using CD133/1 (AC133)-Biotin, Anti-Biotin MicroBeads, MS Columns, and a MiniMACS Separator. The cells are fluorescently stained with CD34-FITC and CD133/2 (293C3)-PE. Cell debris and dead cells were excluded from the analysis based on scatter signals and PI fluorescence.

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