Anti-Mouse SSEA-1 Antibody, Clone MC-480

Antibodies

Mouse monoclonal IgM antibody against human, mouse, rat SSEA-1 (CD15), unconjugated

Catalog #60060

100 µg 0.5 mg/mL

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Product Description

The MC-480 antibody reacts with a terminal carbohydrate epitope, stage-specific embryonic antigen-1 (SSEA-1), which is expressed on a large-molecular-mass (>200 kDa) glycoprotein on the surface of early mouse embryos, mouse embryonal carcinoma (EC), embryonic stem (ES) cells and mouse and human embryonic germ (EG) cells. SSEA-1 is not expressed on undifferentiated human EC, ES or induced pluripotent stem (iPS) cells, or rhesus monkey ES cell lines. Its expression on murine ES cells is decreased upon differentiation, whereas in humans, expression is upregulated during differentiation. SSEA-1 is also found on adult human granulocytes and monocytes, where it is denoted CD15, and the MC-480 antibody recognizes the CD15 marker on these cell types. It has been reported that SSEA-1 has roles in cell adhesion and migration, and regulation of cell differentiation.

Target Antigen Name:	SSEA-1 (CD15)
Alternative Names:	3-FAL, CD15, Lewis X, SSEA1, Stage-specific embryonic antigen 1, X-hapten
Gene ID:	14345
Species Reactivity:	Human, Mouse, Rat
Host Species:	Mouse
Clonality:	Monoclonal
Clone:	MC-480
Isotype:	IgM, kappa
Immunogen:	Mouse F9 teratocarcinoma cells (X-irradiated)
Conjugate:	Unconjugated

Applications

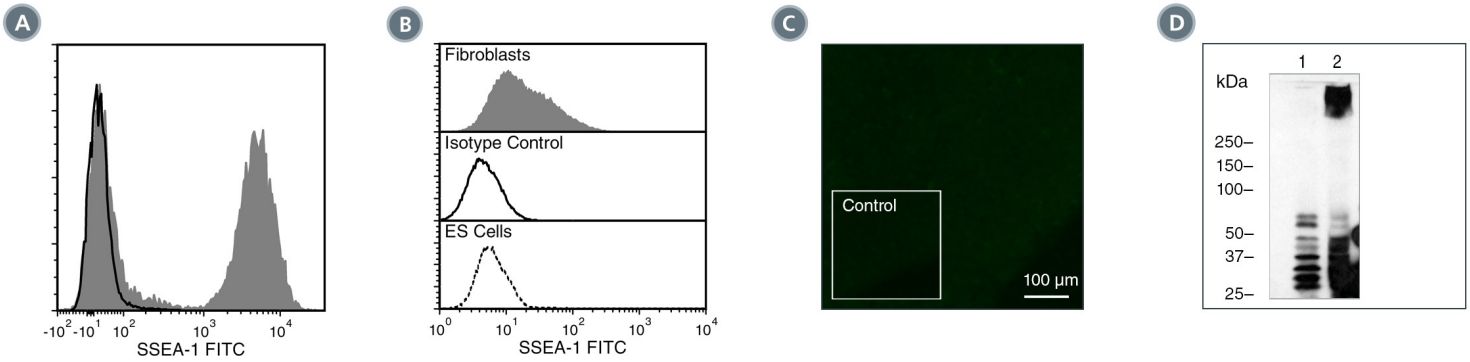
Verified:	FC, ICC, IF, WB
Reported:	FC, ICC, IF, IHC, IP, WB
Special Applications:	This antibody clone has been verified for purity assessments of cells isolated with EasySep™ kits, including EasySep™ HLA Whole Blood CD15 Positive Selection Kit (Catalog #18681HLA; partial blocking may be observed), and for labeling human ES and iPS cells grown in TeSR™-E8™ (Catalog #05940), mTeSR™1 (Catalog #05850) and TeSR™2 (Catalog #05860).

Abbreviations: CellSep: Cell separation; ChIP: Chromatin immunoprecipitation; FA: Functional assay; 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
Purification:	The antibody was purified by affinity chromatography.
Stability and Storage:	Product stable at 2 - 8°C when stored undiluted. Do not freeze. For product expiry date, please contact techsupport@stemcell.com.
Directions for Use:	The suggested use of this antibody is: FC, ≤ 1 µg per 1 x 10e6 cells in 100 µL volume or per 100 µL of whole blood; ICC/IF, ≤ 10 µg/mL; WB, ≤ 2 µg/mL. It is recommended that the antibody be titrated for optimal perfomance for each application.

Data



(A) Flow cytometry analysis of human whole blood nucleated cells labeled with Anti-Human SSEA-1 Antibody, Clone MC-480, followed by goat anti-mouse IgG, FITC (filled histogram). Solid line histogram shows labeling with Mouse IgM, kappa Isotype Control Antibody, Clone MM-30 (Catalog #60069), followed by goat anti-mouse IgG, FITC. SSEA-1 is highly expressed on granulocytes.
(B) Flow cytometry analysis of human HT1080 fibrosarcoma cells labeled with Anti-Human SSEA-1, Clone MC-480, followed by goat anti-mouse IgG, FITC (filled histogram). Empty histograms show labeling with a mouse IgM, kappa isotype control antibody (Anti-Human TRA-1-60 Antibody, Clone TRA-1-60R, Catalog #60064; solid line) and labeling of a negative control cell line (ES cells; dashed line).
(C) Human ES cells were cultured in mTeSR™1 on Corning® Matrigel®-coated glass slides, then fixed and stained with Anti-Human SSEA-1 Antibody, Clone MC-480, followed by goat anti-mouse IgG, FITC. Inset shows cells labeled with Mouse IgM, kappa Isotype Control Antibody, Clone MM-30, followed by goat anti-mouse IgG, FITC. SSEA-1 is not expressed on undifferentiated human ES cells.
(D) Western blot analysis of denatured/reduced cell lysates from human ES cells (negative control; lane 1) or HT1080 fibrosarcoma cells (lane 2) with Anti-Human SSEA-1 Antibody, Clone MC-480.

Related Products

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

References

1. Ciriza J et al. (2015) Murine CD133+CD49flow/+ cells derived from ESCs differentiate into insulin producing cells in vivo. Int J Stem Cell Res Ther 2:004. (FC)
2. Kita H et al. (2015) Dimethyl sulfoxide induces chemotherapeutic resistance in the treatment of testicular embryonal carcinomas. Oncol Lett 10: 661–66. (ICC, IF)
3. Yoshimitsu M et al. (2015) Successful induction of pluripotent stem cells from a Fabry disease mouse model: toward the development of safe lentiviral gene therapy. J Stem Cell Res Ther 5(1):259. (FC)
4. Bittencourt D et al. (2014) Role of distinct surfaces of the G9a ankyrin repeat domain in histone and DNA methylation during embryonic stem cell self-renewal and differentiation. Epigenetics Chromatin 7(1): 27. (FACS, FC)
5. Naeemipour M et al. (2013) Expression dynamics of pluripotency genes in chicken primordial germ cells before and after colonization of the genital ridges. Mol Reprod Dev 80(10): 849–61. (FACS, ICC, IF)
6. Izadyar F et al. (2008) Generation of multipotent cell lines from a distinct population of male germ line stem cells. Reproduction 135(6): 771–84. (FC, ICC, IF)
7. Ueda S et al. (2008) Establishment of rat embryonic stem cells and making of chimera rats. PLoS One 3(7): e2800. (IF)
8. Anjos-Afonso F & Bonnet D. (2007) Nonhematopoietic/endothelial SSEA-1+ cells define the most primitive progenitors in the adult murine bone marrow mesenchymal compartment. Blood 109(3): 1298–306.
9. Fenderson BA et al. (2006) Staining embryonic stem cells using monoclonal antibodies to stage-specific embryonic antigens. Methods Mol Biol 325: 207–24.
10. Cui L et al. (2004) Spatial distribution and initial changes of SSEA-1 and other cell adhesion-related molecules on mouse embryonic stem cells before and during differentiation. J Histochem Cytochem 52(11): 1447–57.
11. Henderson JK et al. (2002) Preimplantation human embryos and embryonic stem cells show comparable expression of stage-specific embryonic antigens. Stem Cells 20(4): 329–37. (FC, IF)
12. Thomson JA et al. (1995) Isolation of a primate embryonic stem cell line. Proc Natl Acad Sci USA 92(17): 7844–8. (IHC)
13. Solter D & Knowles BB. (1978) Monoclonal antibody defining a stage-specific mouse embryonic antigen (SSEA-1). Proc Natl Acad Sci USA 75(11): 5565–9.