Technical Data Sheet

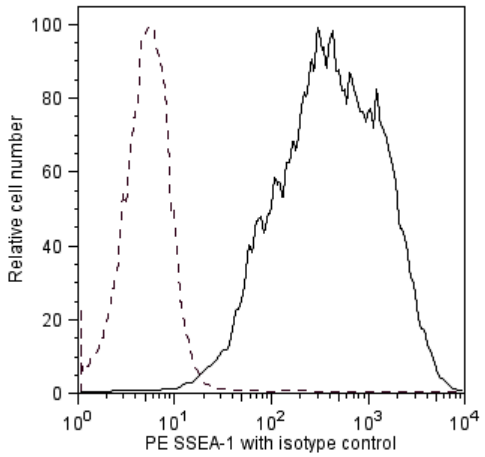
PE Mouse Anti-SSEA-1

Product Information

Material Number:	**560886**
Alternate Name:	3-FAL, X-hapten, LeX antigen, CD15
Size:	25 tests
Vol. per Test:	20 µl
Clone:	MC480
Immunogen:	Mouse Teratocarcinoma Cell Line
Isotype:	Mouse (BALB/c) IgM, κ
Reactivity:	QC Testing: Mouse Reported Reactivity: Human
Storage Buffer:	Aqueous buffered solution containing BSA and ≤0.09% sodium azide.

Description

The MC480 monoclonal antibody reacts with *S*tage-*S*pecific *E*mbryonic *A*ntigen-1 (SSEA-1), which is a terminal carbohydrate epitope (3-fucosyl-N-acetyllactosamine or 3-FAL) on glycoproteins and lactose series glycolipids. SSEA-1 is related to Lewis blood group antigens and is found in a variety of embryonic and adult tissues and cancers. As its name implies, the expression of SSEA-1 is stage-specific and can be used to characterize embryonic cells and monitor their differentiation. However, its expression pattern differs in the human and mouse. In the human, SSEA-1 is not found on embryonic stem (ES) cells, embryonic inner cell mass (ICM), or teratocarcinoma (embryonal carcinoma or EC) cells. As human EC and ES cells undergo differentiation, SSEA-1 expression is upregulated. In the adult, the same epitope is expressed as CD15 on granulocytes and monocytes, but not lymphocytes or dendritic cells. In the mouse, SSEA-1 is found on EC, ES, and primordial germ cells, 8-cell to blastocyst embryos, ICM, and on subpopulations of cells in the adult central nervous system, including stem cells. In contrast to the human, SSEA-1 expression is reduced as mouse EC and ES cells undergo differentiation.



Flow cytometric analysis of PE Mouse Anti-SSEA-1 on E14 cells. *E14 mouse embryonic stem (ES) cells were stained with either PE Mouse Anti-SSEA-1 (solid line) or PE mouse IgM (G155-228) isotype control (catalog number 555584, dashed line), incubated in the dark for 20 minutes at room temperature and analyzed by flow cytometry. Flow cytometry was performed on a BD FACSCalibur™ System.*

Preparation and Storage

Store undiluted at 4°C and protected from prolonged exposure to light. Do not freeze.

The monoclonal antibody was purified from tissue culture supernatant or ascites by affinity chromatography.

The antibody was conjugated with R-PE under optimum conditions, and unconjugated antibody and free PE were removed.

Application Notes

Application

Flow cytometry	Routinely Tested

Suggested Companion Products

Catalog Number	Name	Size	Clone
555584	PE Mouse IgM, κ Isotype Control	100 tests	G155-228

Product Notices

1. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use 1 × 10^6 cells in a 100-µl experimental sample (a test).

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2. An isotype control should be used at the same concentration as the antibody of interest.
3. Caution: Sodium azide yields highly toxic hydrazoic acid under acidic conditions. Dilute azide compounds in running water before discarding to avoid accumulation of potentially explosive deposits in plumbing.
4. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
5. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
6. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

References

Capela A, Temple S. LeX/ssea-1 is expressed by adult mouse CNS stem cells, identifying them as nonependymal. *Neuron.* 2002; 35:865-875. (Biology)

Childs RA, Pennington J, Uemura K, et al. High-molecular-weight glycoproteins are the major carriers of the carbohydrate differentiation antigens I, i and SSEA-1 of mouse teratocarcinoma cells. *Biochem J.* 1983; 215:491-503. (Clone-specific: Immunofluorescence, Western blot)

Draper JS, Pigott C, Thomson JA, Andrews PW. Surface antigens of human embryonic stem cells: changes upon differentiation in culture. *J Anat.* 2002; 200:249-258. (Clone-specific: Flow cytometry)

Henderson JK, Draper JS, Baillie HS, et al. Preimplantation human embryos and embryonic stem cells show comparable expression of stage-specific embryonic antigens. *Stem Cells.* 2002; 20:329-337. (Clone-specific: Flow cytometry, Immunofluorescence)

Kannagi R, Nudelman E, Levery SB, Hakomori S. A series of human erythrocyte glycosphingolipids reacting to the monoclonal antibody directed to a developmentally regulated antigen, SSEA-1. *J Biol Chem.* 1982; 257(24):14865-14874. (Clone-specific)

Solter D, Knowles BB. Monoclonal antibody defining a stage-specific mouse embryonic antigen (SSEA-1). *Proc Natl Acad Sci U S A.* 1978; 75(11):5565-5569. (Immunogen: Cytotoxicity, Radioimmunoassay)

Thomson JA, Itskovitz-Eldor J, Shapiro SS, et al. Embryonic stem cell lines derived from human blastocysts. *Science.* 1998; 282:1145-1147. (Clone-specific: Immunocytochemistry (cytospins))

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