Technical Data Sheet

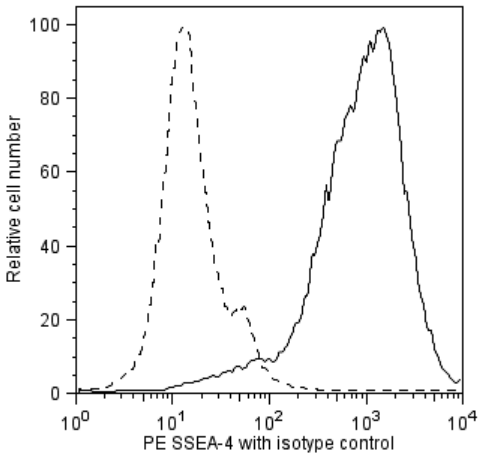
PE Mouse anti-SSEA-4

Product Information

Material Number:	**560128**
Alternate Name:	Stage-Specific Embryonic Antigen-4
Size:	100 tests
Vol. per Test:	20 µl
Clone:	MC813-70
Immunogen:	Human Teratocarcinoma Cell Line
Isotype:	Mouse (BALB/c) IgG3, κ
Reactivity:	QC Testing: Human Reported Reactivity: Mouse
Storage Buffer:	Aqueous buffered solution containing BSA, protein stabilizer, and ≤0.09% sodium azide.

Description

The MC813-70 monoclonal antibody reacts with **S**tage-**S**pecific **E**mbryonic **A**ntigen-**4** (SSEA-4), a carbohydrate epitope on the major ganglioside, but not the neutral glycolipid, of human teratocarcinoma cells. As its name implies, the expression of SSEA-4 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-4 is found on teratocarcinoma (embryonal carcinoma or EC), embryonic inner cell mass (ICM), embryonic stem (ES) cells, and the K562 erythromyeloid leukeumia cell line. As human stem cells undergo differentiation, SSEA-4 expression is lost. In the mouse, SSEA-4 is found on oocytes and early cleavage-stage embryos, and primitive ectoderm, but not on EC, ICM, or ES cells. In some cases, SSEA-4 expression appears upon differentiation of mouse EC or ES cells.



Flow cytometric analysis of PE Mouse Anti-SSEA-4 on H9 cells. *H9 human embryonic stem (ES) cells were stained with either PE Mouse Anti-SSEA-4 (solid line) or PE mouse IgG3 (A112-3) isotype control (catalog number 559926, 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
559926	PE Mouse IgG3, κ Isotype Control	0.1 mg	A112-3
554656	Stain Buffer (FBS)	500 ml	(none)

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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).
2. An isotype control should be used at the same concentration as the antibody of interest.
3. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
4. 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.
5. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
6. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
7. Please refer to www.bdbiosciences.com/pharmingen/protocols for technical protocols.

References

Andrews PW, Bronson DL, Benham F, Strickland S, Knowles BB. A comparative study of eight cell lines derived from human testicular teratocarcinoma. *Int J Cancer.* 1980; 26(3):269-280. (Clone-specific)

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)

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)

Josephson R, Ording CJ, Liu Y, et al. Qualification of embryonal carcinoma 2102Ep as a reference for human embryonic stem cell research. *Stem Cells.* 2007; 25:437-446. (Clone-specific)

Kannagi R, Cochran NA, Ishigami F, et al. Stage-specific embryonic antigens (SSEA-3 and -4) are epitopes of a unique globo-series ganglioside isolated from human teratocarcinoma cells. *EMBO J.* 1983; 2(12):2355-2361. (Immunogen)

Son YS, Park JH, Kang YK, et al. Heat shock 70-kDa protein 8 isoform 1 is expressed on the surface of human embryonic stem cells and downregulated upon differentiation. *Stem Cells.* 2005; 23:1502-1513. (Clone-specific)

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

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