

Technical Data Sheet

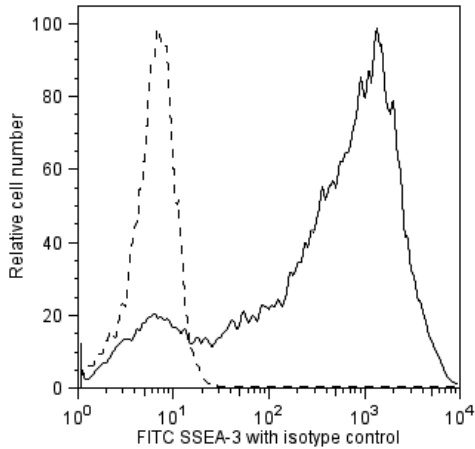
FITC Rat anti-SSEA-3

Product Information

Material Number:	560236
Size:	100 tests
Vol. per Test:	20 µl
Clone:	MC-631 (also known as MC631)
Immunogen:	Mouse Embryos
Isotype:	Rat (F344) IgM
Reactivity:	QC Testing: Human Reported Reactivity: Mouse
Storage Buffer:	Aqueous buffered solution containing BSA, protein stabilizer, and ≤0.09% sodium azide.

Description

The MC-631 monoclonal antibody reacts with Stage-Specific Embryonic Antigen-3 (SSEA-3), a carbohydrate epitope on the major ganglioside, but not the neutral glycolipid, of mouse embryos and human teratocarcinoma cells. As its name implies, the expression of SSEA-3 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-3 is found on teratocarcinoma (embryonal carcinoma or EC), embryonic inner cell mass (ICM), and embryonic stem (ES) cells, and erythrocytes. As human stem cells undergo differentiation, SSEA-3 expression diminishes. In the mouse, SSEA-3 is found on oocytes, ova, zygotes, early cleavage-stage embryos, early blastocysts, ICM, primitive endoderm, and adult kidney, but not on EC or ES cells.



Flow cytometric analysis of FITC Rat Anti-SSEA-3 on H9 cells. H9 human embryonic stem (ES) cells (WiCell, Madison, WI) were stained with either FITC Rat Anti-SSEA-3 (solid line) or FITC rat IgM (R4-22) isotype control (Cat. No. 553942, 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 FITC under optimum conditions, and unreacted FITC was removed.

Application Notes

Application

Flow cytometry	Routinely Tested
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Suggested Companion Products

Catalog Number	Name	Size	Clone
553942	FITC Rat IgM, κ Isotype Control	0.25 mg	R4-22
554656	Stain Buffer (FBS)	500 ml	(none)
554657	Stain Buffer (BSA)	500 ml	(none)
550825	PI/RNase Staining Buffer	100 ml	(none)
560881	FITC Rat Anti-SSEA-3	25 tests	MC-631
560461	Human Pluripotent Stem Cell Sorting And Analysis Kit	50 tests	(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- μ l experimental sample (a test).
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/pharming/protocols for technical protocols.

References

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, Immunocytochemistry (cytospins))

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. (Clone-specific: Immunofluorescence)

Shevinsky LH, Knowles BB, Damjanov I, Solter D. Monoclonal antibody to murine embryos defines a stage-specific embryonic antigen expressed on mouse embryos and human teratocarcinoma cells. *Cell.* 1982; 30:697-705. (Immunogen: Cytotoxicity, Immunofluorescence, Immunoprecipitation, Radioimmunoassay)

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: Flow cytometry, Immunocytochemistry (cytospins))

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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