

## Technical Data Sheet

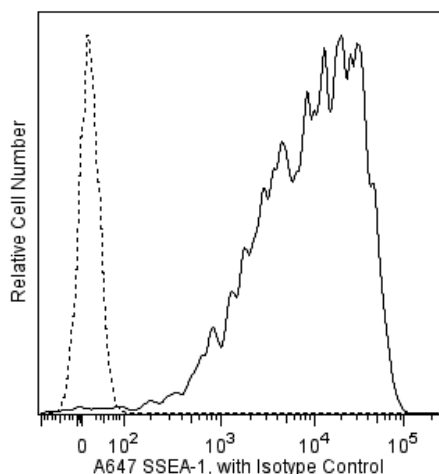
## Alexa Fluor® 647 Mouse Anti-SSEA-1

## Product Information

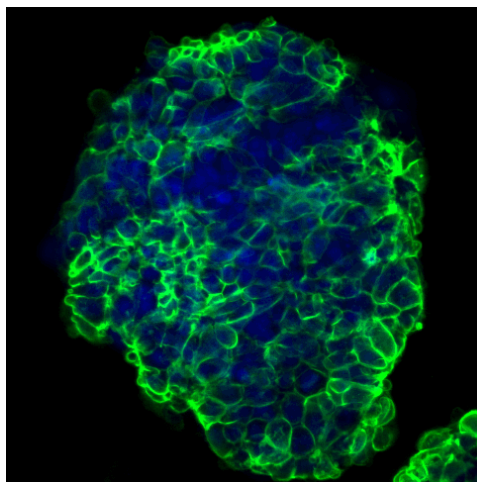
<b>Material Number:</b>	562277
<b>Alternate Name:</b>	3-FAL, X-hapten, LeX antigen, CD15
<b>Size:</b>	25 tests
<b>Vol. per Test:</b>	5 µl
<b>Clone:</b>	MC480
<b>Immunogen:</b>	Mouse Teratocarcinoma Cell Line
<b>Isotype:</b>	Mouse (BALB/c) IgM, κ
<b>Reactivity:</b>	QC Testing: Mouse Reported: Human
<b>Storage Buffer:</b>	Aqueous buffered solution containing BSA, protein stabilizer, and ≤0.09% sodium azide.

## Description

The MC480 monoclonal antibody reacts with Stage-Specific Embryonic Antigen-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 A647® anti-SSEA-1 on mouse embryonic stem cells.** ES-E14TG2a (ATCC, CRL-1821™) mouse embryonic stem (ES) cells at passage 35 were harvested with Accutase™ (Cat. No. 561527) and stained with Alexa Fluor® 647 anti-SSEA-1 (solid line) antibody or Alexa Fluor® 647 Mouse IgM, κ Isotype Control (Cat. No. 560806, dashed line). Flow cytometry was performed on a BD™ LSR II flow cytometry system.



**Immunofluorescent staining of mouse ES cell line.** ES-E14TG2a cells (ATCC, CRL-1821™) were cultured, fixed with BD Cytofix™ Fixation Buffer (Cat. No. 554655), and stained with Alexa Fluor® 647 Mouse anti-SSEA-1 (pseudo-colored green). Counter-staining was with Hoechst 33342 (pseudo-colored blue). The images were captured on a BD Pathway™ 435 Cell Analyzer using a 20X objective and merged using BD Attovision™ software.

## Preparation and Storage

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

The antibody was conjugated to Alexa Fluor® 647 under optimum conditions, and unreacted Alexa Fluor® 647 was removed.

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

## BD Biosciences

[bdbiosciences.com](http://bdbiosciences.com)

United States	Canada	Europe	Japan	Asia Pacific	Latin America/Caribbean
877.232.8995	800.979.9408	32.53.720.550	0120.8555.90	65.6861.0633	55.11.5185.9995

For country contact information, visit [bdbiosciences.com/contact](http://bdbiosciences.com/contact)

Conditions: The information disclosed herein is not to be construed as a recommendation to use the above product in violation of any patents. BD Biosciences will not be held responsible for patent infringement or other violations that may occur with the use of our products. Purchase does not include or carry any right to resell or transfer this product either as a stand-alone product or as a component of another product. Any use of this product other than the permitted use without the express written authorization of Becton, Dickinson and Company is strictly prohibited.

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Not for resale.

Unless otherwise noted, BD, BD Logo and all other trademarks are property of Becton, Dickinson and Company. © 2011 BD

## Application Notes

### Application

Flow cytometry	Routinely Tested
Bioimaging	Tested During Development

### Recommended Assay Procedure:

**Bioimaging:** For more detailed information please refer to [http://www.bdbiosciences.com/support/resources/protocols/ceritified\\_reagents.jsp](http://www.bdbiosciences.com/support/resources/protocols/ceritified_reagents.jsp) and <http://www.bdbiosciences.com/support/resources/bioimaging/index.jsp>

### Suggested Companion Products

Catalog Number	Name	Size	Clone
560806	Alexa Fluor® 647 Mouse IgM, κ Isotype Control	0.1 mg	G155-228
561527	Accutase™ Cell Detachment Solution	100 ml	(none)
554656	Stain Buffer (FBS)	500 ml	(none)
353219	BD Falcon™ 96-well Imaging Plate	NA	(none)
554655	Fixation Buffer	100 ml	(none)

### Product Notices

1. This reagent has been pre-diluted for use at the recommended Volume per Test. We typically use  $1 \times 10^6$  cells in a 100-μl experimental sample (a test).
2. The Alexa Fluor®, Pacific Blue™, and Cascade Blue® dye antibody conjugates in this product are sold under license from Molecular Probes, Inc. for research use only, excluding use in combination with microarrays, or as analyte specific reagents. The Alexa Fluor® dyes (except for Alexa Fluor® 430), Pacific Blue™ dye, and Cascade Blue® dye are covered by pending and issued patents.
3. Alexa Fluor® is a registered trademark of Molecular Probes, Inc., Eugene, OR.
4. Alexa Fluor® 647 fluorochrome emission is collected at the same instrument settings as for allophycocyanin (APC).
5. Please refer to [www.bdbiosciences.com/pharming/protocols](http://www.bdbiosciences.com/pharming/protocols) for technical protocols.
6. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
7. For fluorochrome spectra and suitable instrument settings, please refer to our Fluorochrome Web Page at [www.bdbiosciences.com/colors](http://www.bdbiosciences.com/colors).
8. 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.
9. An isotype control should be used at the same concentration as the antibody of interest.

### 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)

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)

Kannagi R, Nudelman E, Lavery 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: 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))

### BD Biosciences

[bdbiosciences.com](http://bdbiosciences.com)

United States	Canada	Europe	Japan	Asia Pacific	Latin America/Caribbean
877.232.8995	800.979.9408	32.53.720.550	0120.8555.90	65.6861.0633	55.11.5185.9995

For country contact information, visit [bdbiosciences.com/contact](http://bdbiosciences.com/contact)

Conditions: The information disclosed herein is not to be construed as a recommendation to use the above product in violation of any patents. BD Biosciences will not be held responsible for patent infringement or other violations that may occur with the use of our products. Purchase does not include or carry any right to resell or transfer this product either as a stand-alone product or as a component of another product. Any use of this product other than the permitted use without the express written authorization of Becton, Dickinson and Company is strictly prohibited.

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Not for resale.

Unless otherwise noted, BD, BD Logo and all other trademarks are property of Becton, Dickinson and Company. © 2011 BD

