

## Technical Data Sheet

## BV421 Rat Anti-SSEA-3

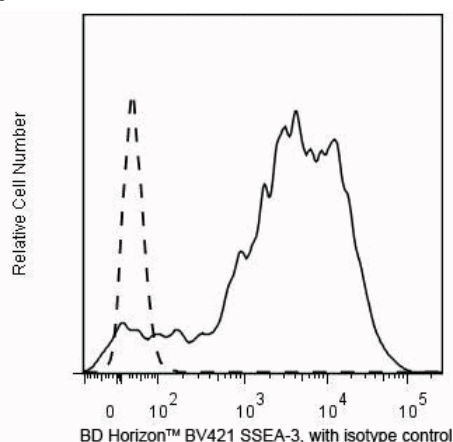
## Product Information

|                  |   |
|------------------|---|
| Material Number: | 562706  |
| Size:            | 50 tests  |
| Vol. per Test:   | 5 µl  |
| Clone:           | MC-631 (also known as MC631)                                      |
| Immunogen:       | Mouse Embryos   |
| Isotype:         | Rat (F344) IgM  |
| Reactivity:      | QC Testing: Human<br>Reported: Mouse                              |
| Storage Buffer:  | Aqueous buffered solution containing BSA 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.

The antibody was conjugated to BD Horizon™ BV421 which is part of the BD Horizon™ Brilliant Violet™ family of dyes. With an Ex Max of 407-nm and Em Max at 421-nm, BD Horizon™ BV421 can be excited by the violet laser and detected in the standard Pacific Blue™ filter set (eg, 450/50-nm filter). BD Horizon™ BV421 conjugates are very bright, often exhibiting a 10 fold improvement in brightness compared to Pacific Blue™ conjugates.



**Flow cytometric analysis of SSEA-3 expression of human embryonic stem (ES) cells.** H9 human ES cells (WiCell, Madison, WI) passage 41 grown in mTESR™ 1 media (StemCell Technologies) were harvested with Accutase™ (Cat. No. 561527) and stained with BD Horizon™ BV421 Rat Anti-SSEA-3 (solid line) or a BD Horizon™ BV421 rat IgM, κ isotype control (Clone R4-22, Cat. No. 562708, dashed line). Flow cytometry was performed on a BD™ LSRII flow cytometry 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 BD Horizon™ BV421 under optimum conditions, and unconjugated antibody and free BD Horizon™ BV421 were removed.

## Application Notes

## Application

|                |                  |
|----------------|------------------|
| Flow cytometry | Routinely Tested |
|----------------|------------------|

## Suggested Companion Products

| Catalog Number | Name                               | Size   | Clone  |
|----------------|------------------------------------|--------|--------|
| 561527         | Accutase™ Cell Detachment Solution | 100 ml | (none) |
| 562708         | BV421 Rat IgM, κ Isotype Control   | 50 µg  | R4-22  |

## BD Biosciences

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



## 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- $\mu$ l experimental sample (a test).
2. An isotype control should be used at the same concentration as the antibody of interest.
3. Brilliant Violet™ 421 is a trademark of Sirigen.
4. Accutase is a registered trademark of Innovative Cell Technologies, Inc.
5. Pacific Blue™ is a trademark of Molecular Probes, Inc., Eugene, OR.
6. Source of all serum proteins is from USDA inspected abattoirs located in the United States.
7. 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.
8. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at [www.bdbiosciences.com/colors](http://www.bdbiosciences.com/colors).
9. Please refer to [www.bdbiosciences.com/pharming/protocols](http://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)

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)

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)

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)

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

## 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

