

Technical Data Sheet

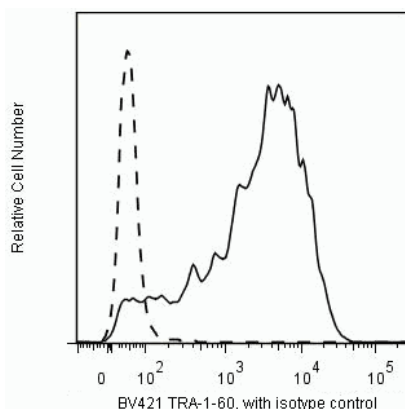
BV421 Mouse Anti-Human TRA-1-60 Antigen**Product Information**

| | |
|-------------------------|---|
| Material Number: | 562711 |
| Alternate Name: | TRA-1-60(R) |
| Size: | 50 tests |
| Vol. per Test: | 5 µl |
| Clone: | TRA-1-60 |
| Immunogen: | Human Embryonal Carcinoma Cell Line |
| Isotype: | Mouse (BALB/c) IgM, κ |
| Reactivity: | QC Testing: Human |
| Storage Buffer: | Aqueous buffered solution containing BSA and ≤0.09% sodium azide. |

Description

The TRA-1-60 monoclonal antibody reacts with the neuraminidase-resistant form of a pluripotent-stem-cell-specific epitope on a high-molecular-weight transmembrane glycoprotein. The TRA-1-60 antigen is a sialylated epitope on the same keratan sulfate core molecule, podocalyxin, as 4 other distinct antigens on tumor-derived cell lines, TRA-1-81, GCTM2, K4, and K21. The expression of TRA-1-60 antigen is stage-specific and can be used to characterize embryonic cells and monitor their differentiation. The antigen is found on teratocarcinoma (embryonal carcinoma or EC), embryonic inner cell mass (but not morula or trophoblast), and embryonic stem (ES) cells. TRA-1-60 antigen is released into the serum of patients bearing testicular tumors containing EC cells. As human EC and ES cells undergo differentiation, expression of TRA-1-60 antigen is lost. Expression of TRA-1-60 antigen has also been observed on a rhesus monkey ES cell line (Thomson et al, 1995).

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 TRA-1-60 expression of human embryonic stem (ES) cells. H9 human ES cells (WiCell, Madison, WI) passage 50 grown on irradiated mouse embryonic fibroblasts were harvested with Accutase™ (Cat. No. 561527) and stained with either BD Horizon™ BV421 Mouse anti-TRA-1-60 (solid line) or BD Horizon™ BV421 Mouse IgM, κ isotype control (Clone G155-228, Cat. No. 562704, 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

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

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



Suggested Companion Products

| Catalog Number | Name | Size | Clone |
|----------------|--|--------|----------|
| 561527 | Accutase™ Cell Detachment Solution | 100 ml | (none) |
| 562704 | Brilliant Violet™ 421 Mouse IgM, κ Isotype Control | 50 µg | G155-228 |
| 554656 | Stain Buffer (FBS) | 500 ml | (none) |

Product Notices

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

References

Andrews PW, Banting G, Damanov I, Arnaud D, Avner P. Three monoclonal antibodies defining distinct differentiation antigens associated with different high molecular weight polypeptides on the surface of human embryonal carcinoma cells. *Hybridoma*. 1984; 3(4):347-361. (Immunogen)

Badcock G, Pigott C, Goepel J, Andrews PW. The human embryonal carcinoma marker antigen TRA-1-60 is a sialylated keratan sulfate proteoglycan. *Cancer Res*. 1999; 59:4715-4719. (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)

Schopperle WM, DeWolf WC. The TRA-1-60 and TRA-1-81 human pluripotent stem cell markers are expressed on podocalyxin in embryonal carcinoma. *Stem Cells*. 2007; 25:723-730. (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)

Thomson JA, Kalishman J, Golos TG, et al. Isolation of a primate embryonic stem cell line. *Proc Natl Acad Sci U S A*. 1995; 92:7844-7848. (Clone-specific)

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

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

