

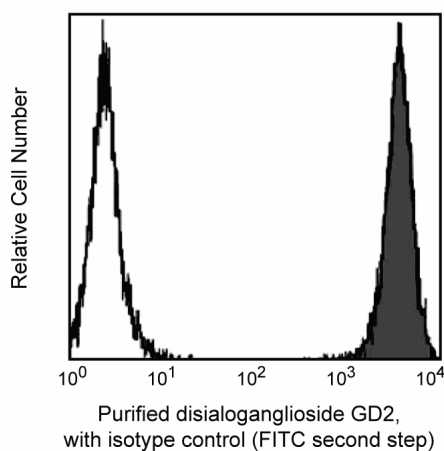
## Technical Data Sheet

**Purified Mouse Anti-Human Disialoganglioside GD2****Product Information**

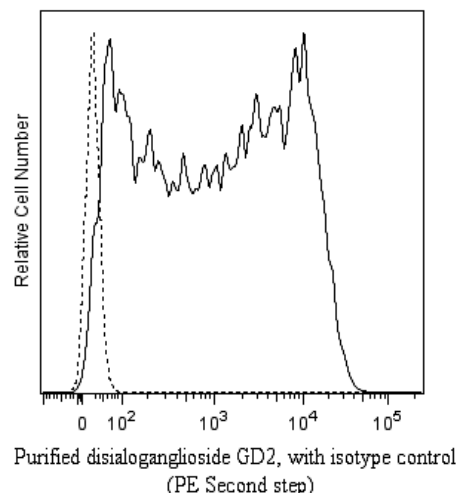
|                         |                                                           |
|-------------------------|-----------------------------------------------------------|
| <b>Material Number:</b> | 554272                                                    |
| <b>Alternate Name:</b>  | GD2                                                       |
| <b>Size:</b>            | 0.1 mg                                                    |
| <b>Concentration:</b>   | 0.5 mg/ml                                                 |
| <b>Clone:</b>           | 14.G2a                                                    |
| <b>Immunogen:</b>       | LAN-1 human neuroblastoma cells                           |
| <b>Isotype:</b>         | Mouse (BALB/c) IgG2a                                      |
| <b>Reactivity:</b>      | QC Testing: Human                                         |
|                         | Tested in Development: Mouse                              |
| <b>Storage Buffer:</b>  | Aqueous buffered solution containing ≤0.09% sodium azide. |

**Description**

Gangliosides are sialic-acid bearing glycolipids that are expressed on the surface of all mammalian cells, and are likely involved in mediating cell-substratum interactions. They are important target antigens for antibody dependent cellular cytotoxicity (ADCC) of human melanoma and neuroblastoma cells. Human melanoma cells produce gangliosides, designated as GD2 and GD3 which are deposited in the substratum-attached material, and may play a significant role in the melanoma metastatic phenotype. Clone 14.G2a specifically reacts with human and mouse GD2 ganglioside. LAN-1 human neuroblastoma cells were used as immunogen. Clone 14.G2a is an isotype switch variant selected from the parental IgG3-producing hybridoma 14.18 and has identical reactivity as the parental antibody. Clone 14.G2a is routinely tested by flow cytometry using M21 human melanoma cells.



**Profile of Human Disialoganglioside on M21 human melanoma cells.** M21 cells were stained with either Purified Mouse anti-Human Disialoganglioside GD2 (Cat. No. 554272; Solid histogram) or a Purified Mouse IgG2a, κ Isotype Control (Cat. No. 556651; Open histogram), followed by a FITC-conjugated second step. Flow cytometry was performed on a BD FACScan™ flow cytometry system (BDIS, San Jose, CA).



**Flow cytometric analysis of purified anti-human disialoganglioside GD2 on human mesenchymal stem cells (MSCs).** Human mesenchymal stem cells (Lonza, Cat. No. PT-2501) were harvested and stained with Purified Mouse anti-Human Disialoganglioside GD2 (solid line) or a Purified Mouse IgG2a, κ Isotype Control (Cat. No. 556651; dashed line). The second step reagent was PE Goat anti-Mouse Ig (Multiple Adsorption; Cat. No. 550589). Flow cytometry was performed on a BD™ LSR II flow cytometry system.

**Preparation and Storage**

Store undiluted at 4°C.

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

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## Application Notes

### Application

|                             |                  |
|-----------------------------|------------------|
| Flow cytometry              | Routinely Tested |
| Immunofluorescence          | Reported         |
| Immunohistochemistry-frozen | Reported         |
| Cytotoxicity                | Reported         |

### Recommended Assay Procedure:

Human neuroblastoma and melanoma cells are suggested as positive controls. Clone 14.G2a has also been reported for antibody-dependent and complement-mediated cytotoxicity of GD2 positive tumor cells and inhibit the growth of GD2 positive cells in athymic nude mice.

### Suggested Companion Products

| Catalog Number | Name                                           | Size   | Clone      |
|----------------|------------------------------------------------|--------|------------|
| 554656         | Stain Buffer (FBS)                             | 500 ml | (none)     |
| 556651         | Purified Mouse IgG2a, $\kappa$ Isotype Control | 0.1 mg | G155-178   |
| 550589         | PE Goat Anti-Mouse Ig (Multiple Adsorption)    | 0.2 mg | Polyclonal |
| 555988         | FITC Goat Anti-Mouse IgG/IgM                   | 0.5 mg | Polyclonal |

### Product Notices

1. Since applications vary, each investigator should titrate the reagent to obtain optimal results.
2. Please refer to [www.bdbiosciences.com/pharmingen/protocols](http://www.bdbiosciences.com/pharmingen/protocols) for technical protocols.
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. An isotype control should be used at the same concentration as the antibody of interest.
5. 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).
6. Sodium azide is a reversible inhibitor of oxidative metabolism; therefore, antibody preparations containing this preservative agent must not be used in cell cultures nor injected into animals. Sodium azide may be removed by washing stained cells or plate-bound antibody or dialyzing soluble antibody in sodium azide-free buffer. Since endotoxin may also affect the results of functional studies, we recommend the NA/LE (No Azide/Low Endotoxin) antibody format, if available, for in vitro and in vivo use.

### References

Cheresh DA, Honsik CJ, Staffileno LK, Jung G, Reisfeld RA. Disialoganglioside GD3 on human melanoma serves as a relevant target antigen for monoclonal antibody-mediated tumor cytotoxicity. *Proc Natl Acad Sci U S A*. 1985; 82(15):5155-5159. (Biology)

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Cheresh DA, Pierschbacher MD, Herzig MA, Mujoo K. Disialogangliosides GD2 and GD3 are involved in the attachment of human melanoma and neuroblastoma cells to extracellular matrix proteins. *J Cell Biol*. 1986; 102(3):688-696. (Biology)

Cheresh DA, Rosenberg J, Mujoo K, Hirschowitz L, Reisfeld RA. Biosynthesis and expression of the disialoganglioside GD2, a relevant target antigen on small cell lung carcinoma for monoclonal antibody-mediated cytotoxicity. *Cancer Res*. 1986; 46(10):5112-5118. (Clone-specific: Flow cytometry, Immunofluorescence, Immunohistochemistry)

Frost JD, Hank JA, Reaman GH, et al. A phase I/II trial of murine monoclonal anti-GD2 antibody 14.G2a plus interleukin-2 in children with refractory neuroblastoma: a report of the Children's Cancer Group. *Cancer*. 1997; 80(2):317-333. (Clone-specific: Cytotoxicity)

Hakomori S. Tumor-associated carbohydrate antigens. *Annu Rev Immunol*. 1984; 2:103-126. (Biology)

Lode HN, Reisfeld RA, Handgretinger R, Nicolaou KC, Gaedicke G, Wrasidlo W. Targeted therapy with a novel enediyne antibiotic calicheamicin  $\theta(1)$ 1 effectively suppresses growth and dissemination of liver metastases in a syngeneic model of murine neuroblastoma. *Cancer Res*. 1998; 58(14):2925-2928. (Clone-specific: Flow cytometry)

Mujoo K, Cheresh DA, Yang HM, Reisfeld RA. Disialoganglioside GD2 on human neuroblastoma cells: target antigen for monoclonal antibody-mediated cytotoxicity and suppression of tumor growth. *Cancer Res*. 1987; 47(4):1098-1104. (Clone-specific: Cytotoxicity, Inhibition)

Mujoo K, Kipps TJ, Yang HM, et al. Functional properties and effect on growth suppression of human neuroblastoma tumors by isotype switch variants of monoclonal antiganglioside GD2 antibody 14.18. *Cancer Res*. 1989; 49(11):2857-2861. (Clone-specific: Cytotoxicity)

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