

PRODUCT DATA SHEET

Anti-ganglioside-GD₃ (monoclonal antibody)

Catalog number: 1977

Common Name: Monoclonal antibody to GD₃,
isotype IgG3

Host: Mouse

Preparation: Purified ganglioside GD₃ was
used to immunize mice. R-24
hybridoma cells were produced
by spleen cell fusion¹

Limit of Detection: Optimal ELISA detection
ca. 50ng of antigen

Quality Control: Dot blot against reactivity
against GD_{1b}, GD₃, GM₁, GM₂

Selectivity: No cross-reaction with other
carbohydrate epitopes

Storage: -20°C

Stability: 3-4 months when refrigerated; 2-3
days at room temperature

Dilution: Phosphate buffered saline (pH 7.4) is
recommended

Preservatives: None

Application Notes:

Anti-Ganglioside-GD₃ (anti-GD₃) is very useful in the identification of GD₃ and in immunotargeting cells expressing GD₃. GD₃ is predominantly expressed during neuronal development and its expression becomes very limited in adult tissues. GD₃ expression is unusually high in basal cell carcinomas and malignant melanomas and is thought to be a human melanoma-specific antigen.³ Although GD₃ is not immunogenic it has been investigated as a tool for immunotargeting human melanoma cells with anti-GD₃.⁴ Over expression of GD₃ has led to apoptosis by recruiting mitochondria to apoptotic pathways and suppressing NF-κB activation and subsequent κB-dependent gene induction. Increased levels of GD₃ have also been found to be associated with proliferative diseases, such as atherosclerosis.

Selected References:

1. H. Yoshino, et al. "Fucosyl-GM1 in Human Sensory Nervous Tissue Is a Target Antigen in Patients with Autoimmune Neuropathies" *Journal of Neurochemistry*, Vol. 61 pp. 658, 1993
2. S. Kusunoki, et al. "Neuropathy and IgM paraproteinemia: Differential binding of IgM M-proteins to peripheral nerve glycolipids" *Neurology*, Vol. 37 pp. 1795, 1987
3. L. Pierre et al. "Anti-GD3 Monoclonal Antibody Effects on Lymphocytes and Antibody-Dependent Cellular Cytotoxicity" *Cancer Biotherapy & Radiopharmaceuticals*, Vol. 21(6) pp. 553-560, 2007
4. A. Lo et al. "Anti-GD3 chimeric sFv-CD28/T-cell receptor zeta designer T cells for treatment of metastatic melanoma and other neuroectodermal tumors" *Clinical Cancer Research*, Vol. 16(10) pp. 2769-2780, 2010

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