

PRODUCT DATA SHEET

Anti-ganglioside asialo GM₁

Catalog No: 1950

Common Name: Polyclonal antibody to asialo GM₁; isotype IgG/IgM

Host: Rabbit

Preparation: Purified anti-ganglioside asialo GM₁ and complete Freund's adjuvant was used to immunize rabbits. Serum containing IgG/IgM was isolated¹

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

Quality Control: ELISA and TLC immunoblotting with peroxidase reaction²

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 asialo GM₁ (anti-GA1) is very useful in the identification of asialo GM₁ and in immunotargeting cells expressing asialo GM₁. Several gangliosides have been found to have elevated expressions in tumor cells. Many therapeutic treatments of tumor cells are being investigated using antibodies to target cells that express these elevated levels of gangliosides. However, anti-GA1 has been shown to eliminate natural killer (NK) cell activity, which enhances the incidence of tumor take and growth.³ It also shows slight reactivity with monocytes, macrophages and fetal thymocytes. It appears that the reduction in NK activity is due to membrane damage rather than to cytolytic membrane attack. Due to the inhibition of NK activity anti-GA1 is being pursued as an anti-immunogenic treatment for use in bone marrow transplants and other similar applications.⁴ Anti-GA1 also suppresses voltage gated calcium channels on the axonal terminals of motor nerves thereby blocking neuromuscular transmission.

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. S. Habu "In vivo effects of anti-asialo GM1. I. Reduction of NK activity and enhancement of transplanted tumor growth in nude mice" *The Journal of Immunology* Vol. 127:1 pp. 34-38, 1981
4. P. Tiberghien "Anti-asialo GM1 antiserum treatment of lethally irradiated recipients before bone marrow transplantation: evidence that recipient natural killer depletion enhances survival, engraftment, and hematopoietic recovery" *Blood*, Vol. 76:7 pp. 1419-1430, 1990

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