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iF488 anti-mouse/human GL7 Antigen Antibody

Catalog Number:	112105, 112106
Size:	25 µg, 100 µg
Target Name:	T and B cell activation marker, Ly77
Regulatory Status:	RUO

PRODUCT DETAILS

Clone:	GL7-mM
Application:	Flow Cytometry
Reactivity:	Human, mouse
Format:	iF488
Isotype:	mouse IgM
Antibody Type:	Monoclonal
Formulation:	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and 0.2% (w/v) BSA
Protein Concentration:	0.2 mg/mL
Storage&Handling:	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. Do not freeze.
Recommended Usage:	For flow cytometric staining, it is recommended to use less than 0.25 µg of this reagent per 0.5-1.0 million cells in a 100 µL volume. Optimal reagent performance should be determined by titration for each specific application. iF488 has an excitation max at 491 nm and an emission max at 516 nm.
Excitation Laser:	Blue Laser (488 nm)
Antibody Family:	Human Antibodies
Storage & Handling:	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. Do not freeze.

BACKGROUND INFORMATION

GL7 antigen is a cell-surface carbohydrate epitope commonly used as a marker of activated B cells, particularly **germinal center (GC) B cells**. It was originally identified through the monoclonal antibody GL7, which recognizes a specific glycan structure expressed on lymphocytes during immune activation. In both mouse and human immunology research, GL7 expression is widely used to identify germinal center B cells in secondary lymphoid organs such as lymph nodes, spleen, and Peyer’s patches. These cells are actively undergoing proliferation, somatic hypermutation, and affinity maturation during adaptive immune responses.

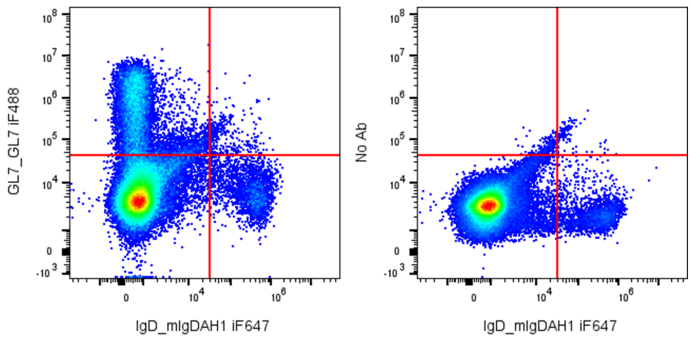
Structurally, GL7 is not a classical protein antigen but rather a **glycan epitope** present on glycoproteins and glycolipids at the cell surface. The epitope corresponds to a modified **sialylated lactosamine carbohydrate structure** that becomes exposed when certain sialic acid residues are enzymatically altered during B-cell activation. Because the GL7 determinant is carbohydrate-based,

it may appear on multiple membrane proteins or lipids that carry the appropriate glycosylation pattern. This explains why GL7 is considered a differentiation marker rather than a receptor with a single defined protein backbone.

Unlike classical immune receptors, GL7 does not have a well-defined ligand or signaling function. Instead, it reflects changes in cellular glycosylation associated with activation and germinal center differentiation. The appearance of GL7 correlates with B-cell interactions with T follicular helper cells and antigen stimulation within germinal centers. As a result, GL7 is often used together with markers such as B220, CD95 (Fas), and IgD to identify germinal center B-cell populations by flow cytometry or immunohistochemistry.

GL7 expression is associated with immune responses and can also appear in pathological conditions involving abnormal germinal center activity. For example, elevated germinal center reactions marked by GL7-positive B cells may occur in autoimmune diseases, chronic infections, or certain B-cell lymphomas. Although GL7 itself is not typically targeted therapeutically, it is widely used in research and preclinical studies to monitor germinal center responses, vaccine-induced B-cell activation, and immune dysregulation. In this way, GL7 serves as an important biomarker for studying adaptive immune responses and evaluating immunotherapies or vaccine efficacy.

PRODUCT DATA



C57BL/6 Mouse bone marrow cells were stained with iF647 Anti-Mouse IgD clone mIgDAH1 and iF488 Anti-Mouse/Human GL7 clone GL7 (left), or iF647 Anti-Mouse IgD only (right).

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