Technical Data Sheet

BUV737 Mouse Anti-Human HLA-G

Product Information

Material Number:	751665
Size:	50 µg
Clone:	87G
Alternative Name:	HLA-G; HLAG; MHC class I antigen G; MHC-G; sHLA-G
Reactivity:	Human (Tested in Development)
Isotype:	Mouse IgG2a, κ
Immunogen:	HLA-G-transfected Cells
Application:	Flow cytometry (Qualified)
Concentration:	0.2 mg/ml
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.
Regulatory Status:	RUO

Description

The 87G monoclonal antibody specifically recognizes Human Leukocyte Antigen G (HLA-G) which is encoded by HLA-G (major histocompatibility complex, class I, G). HLA-G is a nonclassical Major Histocompatibility Complex class I (MHC-Ib) molecule that is structurally related to the classical MHC class Ia antigens (HLA-A, -B, -C). Several HLA-G isoforms have been described including transmembrane HLA-G1, -G2, -G3, -G4 and soluble HLA-G5, -G6, and -G7. The 87G monoclonal antibody reportedly recognizes a conformationally-dependent epitope on the heterodimeric transmembrane HLA-G1 and soluble HLA-G7 isoforms that consist of an HLA-G alpha chain and β2-microglobulin (β2m). HLA-G1 is variably expressed on placental trophoblast cells, thymic epithelial cells, activated monocytes, macrophages, dendritic cells, and tumor cells. Heterodimeric HLA-G shows limited variation and binds a limited variety of self-peptides derived from intracellular proteins including histones and ribosomal proteins. This molecule binds to inhibitory receptors such as CD85d, CD85j, and CD158d that are differentially expressed by NK cells, T cells, monocytes, dendritic cells, and B cells. This interaction exerts suppressive regulation of immune responses and is thought to help safeguard maternal tolerance of the fetus during pregnancy. The 4H84 monoclonal antibody that reportedly recognizes denatured forms of HLA-G1 and HLA-G2 has also been described.

The antibody was conjugated to BD Horizon™ BUV737 which is part of the BD Horizon Brilliant™ Ultraviolet family of dyes. This dye is a tandem fluorochrome of BD Horizon BUV395 with an Ex Max of 348-nm and an acceptor dye with an Em Max at 737-nm. BD Horizon Brilliant BUV737 can be excited by the ultraviolet laser (355 nm) and detected with a 740/35 filter. Due to the excitation of the acceptor dye by other laser lines, there may be significant spillover into channels detecting Alexa Fluor® 700-like dyes (eg, 712/20-nm filter).

Due to spectral differences between labeled cells and beads, using BD™ CompBeads can result in incorrect spillover values when used with BD Horizon BUV737 reagents. Therefore, the use of BD CompBeads or BD CompBeads Plus to determine spillover values for these reagents is not recommended. Different BUV737 reagents (eg, CD4 vs. CD45) can have slightly different fluorescence spillover therefore, it may also be necessary to use clone specific compensation controls when using these reagents.

Preparation and Storage Section

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 to the dye under optimum conditions that minimize unconjugated dye and antibody.

Recommended Assay Procedure

BD™ CompBeads can be used as surrogates to assess fluorescence spillover (Compensation). When fluorochrome conjugated antibodies are bound to BD CompBeads, they have spectral properties very similar to cells. However, for some fluorochromes there can be small differences in spectral emissions compared to cells, resulting in spillover values that differ when compared to biological controls. It is strongly recommended that when using a reagent for the first time, users compare the spillover on cells and BD CompBead to ensure that BD CompBeads are appropriate for your specific cellular application.

For optimal and reproducible results, BD Horizon Brilliant Stain Buffer should be used anytime two or more BD Horizon Brilliant dyes are used in the same experiment. Fluorescent dye interactions may cause staining artifacts which may affect

data interpretation. The BD Horizon Brilliant Stain Buffer was designed to minimize these interactions. More information can be found in the Technical Data Sheet of the BD Horizon Brilliant Stain Buffer (Cat. No. 563794/566349) or the BD Horizon Brilliant Stain Buffer Plus (Cat. No. 566385).

Note: When using high concentrations of antibody, background binding of this dye to erythroid cell subsets (mature erythrocytes and precursors) has been observed. For researchers studying these cell populations, or in cases where light scatter gating does not adequately exclude these cells from the analysis, this background may be an important factor to consider when selecting reagents for panel(s).

Suggested Companion Products

Catalog Number	Name	Size	Clone
554656	Stain Buffer (FBS) RUO	500 mL	
554657	Stain Buffer (BSA) RUO	500 mL	
563794	Brilliant Stain Buffer RUO	100 Tests	
555899	Lysing Buffer RUO	100 mL	
566349	Brilliant Stain Buffer RUO	1000 Tests	
566385	Brilliant Stain Buffer Plus RUO	1000 Tests	
349202	Lysing Solution 10X Concentrate IVD	100 NA	
564219	Human BD Fc Block™ RUO	50 mg	
612765	BUV737 Mouse IgG2a, κ Isotype Control G155-178 RUO	50 µg	

Product Notices

1. The production process underwent stringent testing and validation to assure that it generates a high-quality conjugate with consistent performance and specific binding activity. However, verification testing has not been performed on all conjugate lots.
2. Researchers should determine the optimal concentration of this reagent for their individual applications.
3. An isotype control should be used at the same concentration as the antibody of interest.
4. 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.
5. For fluorochrome spectra and suitable instrument settings, please refer to our Multicolor Flow Cytometry web page at www.bdbiosciences.com/colors.
6. Please refer to www.bdbiosciences.com/us/s/resources for technical protocols.
7. BD Horizon Brilliant Stain Buffer is covered by one or more of the following US patents: 8,110,673; 8,158,444; 8,575,303; 8,354,239.
8. Please refer to http://regdocs.bd.com to access safety data sheets (SDS).
9. BD Horizon Brilliant Ultraviolet 737 is covered by one or more of the following US patents: 8,110,673; 8,158,444; 8,227,187; 8,575,303; 8,354,239.

References

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Lee N, Malacko AR, Ishitani A, et al. The membrane-bound and soluble forms of HLA-G bind identical sets of endogenous peptides but differ with respect to TAP association. Immunity. 1995; 3(5):591-600. (Immunogen: Flow cytometry).
Odum N, Ledbetter JA, Martin P, et al. Homotypic aggregation of human cell lines by HLA class II-, class Ia- and HLA-G-specific monoclonal antibodies.. Eur J Immunol. 1991; 21(9):2121-31. (Immunogen: Flow cytometry).
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