

Technical Data Sheet

BV711 Mouse Anti-Human HLA-E

Product Information

Material Number:	751741
Size:	50 µg
Clone:	3D12 (also known as 3D12/HLA-E)
Alternative Name:	HLA class I histocompatibility antigen, alpha chain E; HLA-E; MHC Class I Antigen E
Reactivity:	Human (Tested in Development)
Isotype:	Mouse BALB/c IgG1, κ
Immunogen:	Human HLA-E Recombinant Protein
Application:	Flow cytometry (Qualified)
Concentration:	0.2 mg/ml
Storage Buffer:	Aqueous buffered solution containing ≤0.09% sodium azide.
Regulatory Status:	RUO

Description

The 3D12 monoclonal antibody specifically recognizes Human Leukocyte Antigen E (HLA-E) that is widely expressed on leucocytes and some other cell types. Cell surface HLA-E is normally expressed as a noncovalent complex comprised of the ~45 kDa type I transmembrane, HLA-E heavy-chain glycoprotein, the ~12 kDa invariant β2-microglobulin (β2m) light chain, and a short bound peptide. Human HLA-E represents a nonclassical Major Histocompatibility Complex class I (MHC class Ib) molecule that is homologous to mouse H-2 Qa-1. Although structurally related to the classical, highly polymorphic MHC class Ia antigens (HLA-A, -B, -C), HLA-E shows limited polymorphism. HLA-E functions in the regulation or self-nonsel self discrimination of innate and adaptive immune responses. In addition to binding self peptides, the HLA-E complex can selectively bind and present peptides derived from bacterial or viral pathogen-infected cells, stressed cells, or tumor cells to elicit antigen-specific, HLA-E-restricted CD8+ T cell responses. The cell surface HLA-E complex likewise serves as a ligand for heterodimeric CD94:NKG2A inhibitory and CD94:NKG2C activating receptors that are differentially expressed on NK cells and some T cells. These ligand:receptor interactions can either suppress or promote NK or T cell-mediated responses. The 3D12 antibody reportedly binds to both free or complexed HLA-E heavy chain and can block HLA-E-dependent function.

The antibody was conjugated to BD Horizon™ BV711 which is part of the BD Horizon Brilliant™ Violet family of dyes. This dye is a tandem fluorochrome of BD Horizon BV421 with an Ex Max of 405-nm and an acceptor dye with an Em Max at 711-nm. BD Horizon BV711 can be excited by the violet laser and detected in a filter used to detect Cy™5.5 / Alexa Fluor® 700-like dyes (eg, 712/20-nm filter). Due to the excitation and emission characteristics of the acceptor dye, there may be moderate spillover into the Alexa Fluor® 700 and PerCP-Cy5.5 detectors. However, the spillover can be corrected through compensation as with any other dye combination.

Preparation and Storage

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 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 CompBead to ensure that BD Comp beads 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).

Suggested Companion Products

Catalog Number	Name	Size	Clone
349202	Lysing Solution 10X Concentrate	100 NA	
564219	Human BD Fc Block™	50 mg	
563044	BV711 Mouse IgG1, k Isotype Control	50 µg	X40
554656	Stain Buffer (FBS)	500 mL	
554657	Stain Buffer (BSA)	500 mL	
563794	Brilliant Stain Buffer	100 Tests	
555899	Lysing Buffer	100 mL	
566349	Brilliant Stain Buffer	1000 Tests	
566385	Brilliant Stain Buffer Plus	1000 Tests	

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. Alexa Fluor® is a registered trademark of Life Technologies Corporation.
10. BD Horizon Brilliant Violet 711 is covered by one or more of the following US patents: 8,110,673; 8,158,444; 8,227,187; 8,455,613; 8,575,303; 8,354,239.
11. Cy is a trademark of GE Healthcare.

References

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