Technical Data Sheet

InVivoMAb anti-human HLA-E

Attention: Use of this product constitutes an agreement to Bio X Cell's Terms and Conditions which are included with this product in print and can also be found at https://bioxcell.com/terms-and-conditions.

Lot Specific Information

Lot Number: **Lot Specific***
Volume: **Lot Specific***
Concentration: **Lot Specific* (generally 4 to 11 mg/ml) ***
Total Protein: **Lot Specific***

*This information will be noted on the certificate of analysis that ships with this product.

Product Information

Catalog Number:	**BE0483**
Clone:	**3D12**
Isotype:	Mouse IgG1, κ
Recommended Isotype Control(s):	InVivoMAb mouse IgG1 isotype control, unknown specificity
Recommended Dilution Buffer:	InVivoPure pH 7.0 Dilution Buffer
Immunogen:	Recombinant HLA-E purified from AEH cells
Reported Applications:	Immunopeptidomics immunoprecipitation *in vitro* blocking of HLA-E *in vitro* functional assay Flow cytometry Immunohistochemistry (paraffin) Immunohistochemistry (frozen) Immunofluorescence Western blot
Formulation:	PBS, pH 7.0 Contains no stabilizers or preservatives
Endotoxin:	≤1EU/mg (≤0.001EU/µg) Determined by LAL assay
Purity:	≥95% Determined by SDS-PAGE
Sterility:	0.2 µm filtered
Production:	Purified from cell culture supernatant in an animal-free facility
Purification:	Protein G
RRID:	
Molecular Weight:	150 kDa

Description

The 3D12 monoclonal antibody reacts with the extracellular domain of human HLA-E, a nonclassical, nonpolymorphic, class Ib HLA molecule involved in immune self-nonself discrimination. This antibody recognizes the HLA-E free heavy chain as well as the heavy chain associated with β2-microglobulin (β2m) and peptide, through a native conformational epitope. HLA-E is expressed by B and T lymphocytes, natural killer (NK) cells, and macrophages. HLA-E is also found overexpressed in several types of solid tumors, e.g., malignant glioblastoma, colorectal cancer, ovarian cancer, cervical cancer, etc. In circulation as well as the tumor microenvironment, HLA-E acts as a major checkpoint for NKG2A+ CD8+ T cells and NK cells. The HLA-E signaling axis operates alongside PD-L1 to negatively regulate the effector responses by T and NK cells. HLA-E interacts with a restricted array of peptides originating from the leader peptides of other class I HLA molecules, and the peptide-bound heterotrimeric complex of HLA-E with β2m serves as a ligand for the NK cell inhibitory receptor KLRD1-KLRC1. These interactions allow NK cells to monitor the expression of MHC class I molecules in healthy cells and to exhibit

self-tolerance. During conditions of cellular stress, this function is compromised, and the heterodimeric complex preferentially associates with signal sequence-derived peptides from stress-induced chaperones. In addition to self-peptides, HLA-E can bind and present pathogen-derived peptides, HIV gag peptides, and mycobacterial peptides to HLA-E-restricted CD8-positive T cells, hence inducing cytotoxic and immunoregulatory activities.

Storage

Store at the stock concentration at 4°C . **Do not freeze.**
It is not uncommon for a floccule or precipitate to appear during storage. The floccule is typically buffer salts precipitating out of solution or a small bit of protein aggregation. For information on how to remove floccules or precipitates see our FAQ's at https://bioxcell.com/faqs.

Protocol Information

Since applications vary, each investigator should use the application references as a guide to help estimate the appropriate dose or concentration. The dose or concentration can be further optimized experimentally in a dose response or titration experiment.

Application References

For a complete list of references, visit https://bioxcell.com/be0483?bxcs=9k1b3a#tab_references or scan the QR code below.

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