Technical Data Sheet

InVivoMAb anti-human CD6 (T12)

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:	**BE0480**
Clone:	**UMCD6**
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:	T cell line ST-1
Reported Applications:	*in vivo* functional assay *in vitro* functional assay *in vitro* activation of cytotoxic lymphocytes Immunoprecipitation Flow cytometry 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 UMCD6 monoclonal antibody reacts with domain 1 of human T-cell differentiation antigen CD6, which is also known as T12 and TP120. CD6 is expressed by thymocytes, mature T-cells, a subset of B-cells (B-1 cells), and some cells in the brain. CD6 is a single-pass type I membrane protein that primarily interacts with its ligands CD166/ALCAM and CD318 (CDCP1). Other binding partners of CD6 include the TCR/CD3 complex subunit CD3E, LCP2, VAV1, LGALS1, and LGALS3. CD6 acts as a cell adhesion molecule, and through its interaction with ALCAM/CD166, CD6 mediates cell-cell contacts and regulates T-cell responses. CD6 is involved in TCR/CD3-mediated signaling cascades, and it functions as a costimulatory molecule, thereby promoting T-cell activation and proliferation. In infection biology, the CD6 molecule functions as a calcium-dependent pattern receptor that binds to and aggregates both Gram+ and Gram- bacteria. The binding of CD6 with bacterial LPS triggers signaling cascades (upstream of MAP kinases) and mediates activation of the inflammatory response as well as the secretion of pro-inflammatory cytokines. In cancer immunotherapy research, the unique expression profile of CD6 on immune cells and its ligands on cancer cells makes it an attractive target for in vivo functional-grade antibodies, e.g., the UMCD6 antibody that binds the same epitope as Itolizumab. The UMCD6 antibody is non-depleting but is shown to rapidly

cap and internalize CD6. The UMCD6 antibody is reported to enhance the ability of CD8+T, NK-T, and NK cells to kill cancer cells (e.g., breast, prostate, and lung cancer cells) through regulating NKG2A and NKG2AD receptors. This antibody is also reported to block T-cell-dependent autoimmunity by regulating the differentiation of effector CD4+ T cell subsets.

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/be0480?bxcs=9k1b3a#tab_references or scan the QR code below.

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