Mouse CD6 Antibody

Monoclonal Rat IgG_1 Clone # 96117

Catalog Number: MAB7271

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse CD6 in ELISAs. In sandwich immunoassays, no cross-reactivity or interference was observed with recombinant human CD6 or recombinant mouse ALCAM.
Source	Monoclonal Rat IgG_1 Clone # 96117
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse CD6 Leu18-Gly396 Accession # Q61003
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

Mouse CD6 Sandwich Immunoassay		**Reagent**
ELISA Capture	2-8 µg/mL	Mouse CD6 Antibody (Catalog # MAB7271)
ELISA Detection	0.5-2.0 µg/mL	Mouse CD6 Biotinylated Antibody (Catalog # BAM727)
Standard		Recombinant Mouse CD6 Fc Chimera (Catalog # 727-CD)
Adhesion Blockade	The adhesion of HuT 78 human cutaneous T cell lymphoma cells (5 x 10^4 cells/well) to immobilized Recombinant mouse CD6 Fc Chimera (Catalog # 727-CD, 10 µg/mL, 100 µL/well) was maximally inhibited (80-100%) by 3 µg/mL of the antibody.	

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

CD6 is a member of the group B scavenger receptor cysteine-rich (SRCR) superfamily. CD6 is a type I membrane glycoprotein and contains three extracellular SRCR domains. CD6 is expressed at low levels on immature thymocytes and at high levels on mature thymocytes. The majority of peripheral blood T cells, a subset of B cells, and a subset of neuronal cells express CD6. Mouse CD6 is a 626 amino acid (aa) protein with a 24 aa sequence, a 372 aa extracellular domain, and a 204 aa cytoplasmic region. The 668 aa human homolog has also been identified. The human and murine proteins share 70% aa identity over their full-lengths. The role of CD6 has not been fully elucidated. However, it appears to play a role as both a co-stimulatory molecule in T cell activation and as an adhesion receptor. Studies demonstrating a mitogenic effect for T cells with some CD6 specific monoclonal antibodies, in conjunction with either accessory cells or PMA and anti-CD2 mAb, support the concept of CD6 as a co-stimulatory molecule. Additionally, anti-CD6 monoclonal antibody has been used as an immunosuppressive agent for patients undergoing kidney or bone marrow allograft rejection. It has also been used to remove $CD6^+$ T cells from donor bone marrow prior to allogenic bone marrow transplantation. Other studies have demonstrated an adhesive role for CD6, it has been demonstrated to bind the activated leukocyte cell adhesion molecule (ALCAM, CD166). CD6/ALCAM interactions have been postulated to play a role in thymocyte development. Additionally, the presence of ALCAM on neuronal cells may provide a mechanism of interaction between $CD6^+$ T cell and $ALCAM^+$ neuronal cells. Phosphorylation of the CD6 molecule appears to play a role in CD6-mediated signal transduction. Serine and threonine residues become hyperphosphorylated and tyrosine residues become phosphorylated when T cells are activated with anti-CD6 mAb in conjunction with PMA, anti-CD2, or anti-CD3 mAb. The CD6 intracellular domain contains regions that can interact with SH2 or SH3 containing proteins. However, the signaling pathways have not been elucidated.

References:

1. Gangemi, R. *et al.* (1989) J. Immunol. **143**:2439.
2. Aruffo, A. *et al.* (1991) J. Exp. Med. **174**:949.
3. Swack, J.A. *et al.* (1991) J. Biol. Chem. **266**:7137.
4. Robinson, W.H. *et al.* (1995) Eur. J. Immunol. **25**:2765.
5. Whitney, G. *et al.* (1995) Mol. Immunol. **32**:89.
6. Starling, G.C. *et al.* (1996) Eur. J. Immunol. **26**:738.
7. Degen, W.G. *et al.* (1998) Am. J. Pathol. **152**:805.
8. Swack, J.A. *et al.* (1989) Mol. Immunol. **26**:1037.
9. Pawelec, G. and H.J. Buhring (1991) Human Immunol. **31**:165.
10. Osorio, L.M. *et al.* (1995) Cell Immunol. **166**:44.
11. Robinson, W.H. *et al.* (1995) J. Immunol. **155**:4739.
12. Singer, N.G. *et al.* (1996) Immunology **88**:537.
13. Aruffo, A. *et al.* (1997) Immunol. Today **18**:498.