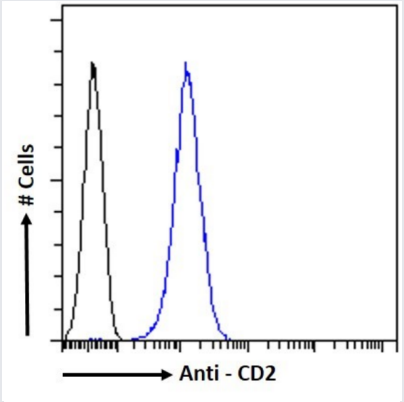
CD2 Antibody

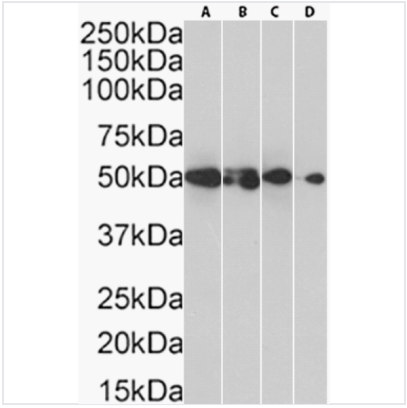
PRODUCT OVERVIEW

Product Name	CD2, Antibody
Full Product Name	Anti-CD2 [35.1]
Product Gene Name	anti-CD2 antibody
Product Synonym Names	LFA-2; LFA-3 receptor; SRBC; Rosette receptor; T-cell surface antigen CD2; Erythrocyte receptor; T-cell surface antigen T11/Leu-5
Isotype	Rabbit IgG kappa
Clone Number	35.1
Species Reactivity	Human
Form/Format	PBS with 0.02% Proclin 300.
Purity/Purification	Purified. Protein A affinity purified
Concentration	1mg/ml (lot specific)
Specificity	This antibody recognizes an epitope on the extracellular domain of the human T cell surface protein Tp50 (CD2) between amino acid residues 39-50. The binding of this antibody does not inhibit the interaction between CD2 and CD58. CD2 is a glycoprotein belonging to the immunoglobulin superfamily. It acts as a specific marker for T lymphocytes, natural killer cells, thymic B cell subsets, and some antigen presenting cells. CD2 interacts with CD58 (LFA-3) and CD48/BCM1 to mediate adhesion between T-cells and other cell types. CD2 is implicated in the triggering of T-cells, the cytoplasmic domain is implicated in the signaling function.
Preparation and Storage	Store at 4 degree C for up to 3 months. For longer storage, aliquot and store at -20 degree C.
Molecular Weight	39,448 Da
OMIM	186990
3D Structure	ModBase 3D Structure for P06729
Animal-free Manufacturing Platform	The recombinant antibody is manufactured using a recombinant, mammalian HEK293-based expression platform. The manufacturing platform is animal-free and animal component-free.
Product Categories/Family for anti-CD2 antibody	T cells; cell adhesion; cell signaling
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Applications Tested/Suitable for anti-CD2 antibody	Immunoprecipitation (IP), Flow Cytometry (FC/FACS)
Application Notes for anti-CD2 antibody	This antibody inhibits T cell proliferative responses and cytotoxicity, but does not inhibit antibody mediated cellular cytotoxicity. This antibody was used in the generation of CD2 targeting ricin A chain-containing immunotoxins (PMID: 2461993). This antibody is capable of immunoprecipitating CD2 antigen form cell lysates (PMID: 8557753). This antibody was also used for the cell cycle analysis of cells along with other antibodies like anti-CD3, anti-CD4, and anti-CD8 using flow cytometry (PMID: 9881968).
Related Product Information for anti-CD2 antibody	The original antibody was generated by immunizing mice with human T lymphocytes that had been activated with phorbol myristic acid (PMA). Describes the characterization of epitopes on the human T cell surface protein Tp50 using two antibodies. This chimeric rabbit antibody was made using the variable domain sequences of the original Mouse IgG2a format for improved compatibility with existing reagents assays and techniques.

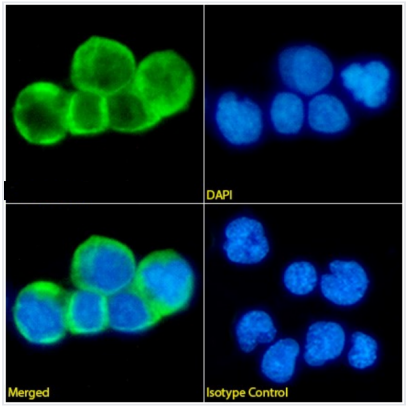
Product References and Citations for anti-CD2 antibody	Martin et al. J Immunol. 1983 Jul;131(1):180-5.
Other Notes	Small volumes of anti-CD2 antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for CD2 purchase	MBS489113 is an antibody targeting CD2. Also known as Anti-CD2 [35.1]. Reactive in Human.



Flow Cytometry (FC/FACS) of anti-CD2 antibody
Flow cytometry using anti-CD2 antibody 35.1 . Jurkat cells were stained with the anti-unknown specificity antibody (isotype control, black line) or the rabbit IgG version of 35.1 (MBS489113, blue line) at a dilution of 1:100 for 1h at RT. After washing, the bound antibody was detected using a goat anti-rabbit IgG AlexaFluor 488 antibody at a dilution of 1:1000 and the cells were analyzed using a FACSCanto flow-cytometer.



Western Blot (WB) of anti-CD2 antibody
Western blot using anti-CD2 antibody 35.1 . Jurkat (A) and Molt-4 (B) cells lysate, and human thymus (C) and tonsil (D) tissue lysates (35µg protein in RIPA buffer) were resolved on an SDS-PAGE gel, and blots were probed with the chimeric rabbit version of 35.1 (MBS489113) at 0.01µg/ml before detection using an anti-rabbit secondary antibody. A primary incubation of 1h was used, and protein was detected by chemiluminescence.



Immunofluorescence (IF) of anti-CD2 antibody
Immunofluorescence staining of Jurkat cells with anti-CD2 antibody 35.1 . Immunofluorescence analysis of paraformaldehyde fixed Jurkat cells on Shi-fix™ coverslips stained with the chimeric rabbit IgG version of 35.1 (MBS489113) (1:100 dilution) for 1h followed by Alexa Fluor 488 secondary antibody (1:1000 dilution), showing membrane and cytoplasmic staining. The nuclear stain is DAPI (blue). Panels show, from left-right, top-bottom, MBS489113, DAPI, merged channels, and an isotype control. The isotype control was an unknown specificity antibody followed by staining with Alexa Fluor 488 secondary antibody.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for CD2. It may not necessarily be applicable to this product.

NCBI GI #	156071472
NCBI GeneID	914
NCBI Accession #	NP_001758.2
UniProt Primary Accession #	P06729
UniProt Secondary Accession #	Q96TE5

UniProt Related Accession #	P06729
GenBank Nucleotide #	NM_001767.3
NCBI Official Full Name	T-cell surface antigen CD2
NCBI Official Synonym Full Names	CD2 molecule
NCBI Official Symbol	CD2
NCBI Official Synonym Symbols	T11; SRBC; LFA-2
UniProt Protein Name	T-cell surface antigen CD2
UniProt Synonym Protein Names	Erythrocyte receptor; LFA-2; LFA-3 receptor; Rosette receptor; T-cell surface antigen T11/Leu-5; CD_antigen: CD2
Protein Family	T-cell surface antigen
UniProt Gene Name	CD2
UniProt Synonym Gene Names	SRBC
UniProt Entry Name	CD2_HUMAN
NCBI Protein Information	T-cell surface antigen CD2; CD2 antigen (p50), sheep red blood cell receptor; LFA-3 receptor; T-cell surface antigen T11/Leu-5; erythrocyte receptor; lymphocyte-function antigen-2; rosette receptor
NCBI Summary for CD2	CD2 is a surface antigen of the human T-lymphocyte lineage that is expressed on all peripheral blood T cells (summarized by Sewell et al., 1986 [PubMed 3490670]). It is one of the earliest T-cell markers, being present on more than 95% of thymocytes; it is also found on some natural killer cells but not on B lymphocytes. Monoclonal antibodies directed against CD2 inhibit the formation of rosettes with sheep erythrocytes, indicating that CD2 is the erythrocyte receptor or is closely associated with it.[supplied by OMIM, Jul 2010]
UniProt Comments for CD2	CD2: CD2 interacts with lymphocyte function-associated antigen (LFA-3) and CD48/BCM1 to mediate adhesion between T-cells and other cell types. CD2 is implicated in the triggering of T- cells, the cytoplasmic domain is implicated in the signaling function. Protein type: Cell surface; Apoptosis; Membrane protein, integral Chromosomal Location of Human Ortholog: 1p13.1 Cellular Component: internal side of plasma membrane; cell surface; anchored to plasma membrane; integral to plasma membrane; plasma membrane; extracellular region; intercellular junction; external side of plasma membrane Molecular Function: protein binding; protein homodimerization activity; receptor activity; receptor binding Biological Process: heterotypic cell-cell adhesion; cell-cell adhesion; cell surface receptor linked signal transduction; T cell activation; apoptosis; natural killer cell activation; regulation of T cell differentiation; blood coagulation; lipid raft polarization; positive regulation of tumor necrosis factor production; leukocyte migration; positive regulation of myeloid dendritic cell activation
Research Articles on CD2	**1.** Although sMCs displayed immunoreactivity for one of the neoplastic antigens in the majority of SM patients, the aberrant CD2 and/or CD25 expression on sMCs is not as indicative of SM as the BMMC immunophenotype.
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