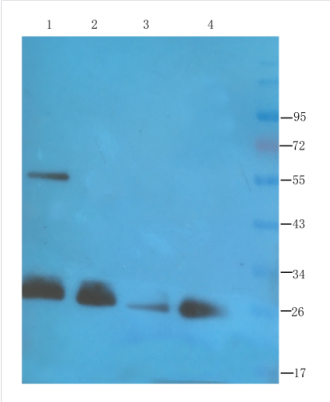
CD28 Recombinant Antibody – Monoclonal

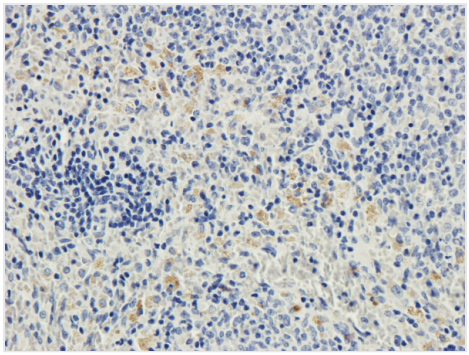
PRODUCT OVERVIEW

Product Name	CD28, Recombinant Antibody
Full Product Name	Anti-CD28 [JJ316]
Product Gene Name	CD28 recombinant antibody
Product Synonym Names	TP44; T-cell-specific surface glycoprotein CD28
Clonality	Monoclonal
Isotype	Rabbit IgG kappa
Clone Number	JJ316
Species Reactivity	Rat
Form/Format	PBS with 0.02% Proclin 300.
Purity/Purification	Protein A Affinity Purified
Concentration	1mg/ml (lot specific)
Specificity	Recognizes rat CD28 and can trigger T-cell proliferation in vitro and in vivo.
Preparation and Storage	Store at 4 degree C for up to 3 months. For longer storage, aliquot and store at -20 degree C.
3D Structure	ModBase 3D Structure for P31042
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.
Antibody Type	Recombinant Antibody
Antibody Species	Rabbit
Original Species Name	Mouse
Immunogen	Made by immunizing BALB/c mice with rat CD28 cDNA-transfected A20/J cells.
Chimeric Use Statement	This chimeric rabbit antibody was made using the variable domain sequences of the original Mouse IgG1 format, for improved compatibility with existing reagents, assays and techniques.
Clone Note	This antibody binds rat CD28 and can convey as a co-stimulatory signal. At 100-1000-fold higher concentration than required for co-stimulation JJ316 (unlike the clone JJ319 marketed by competitors (see Tacke et al. 1997)) can induce proliferation of all T-cell subsets without TCR engagement.
Buffer Composition	PBS only with 0.02% Proclin 300.
Product Categories/Family for CD28 recombinant antibody	Immunology; Signalling; Costimulation; Immuno-oncology; Immunotherapy
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Applications Tested/Suitable for CD28 recombinant antibody	CoStim, Superagonism, Flow Cytometry (FC/FACS), Immunofluorescence (IF), Immunohistochemistry (IHC)
Related Product Information for CD28 recombinant antibody	Recombinant monoclonal antibody to CD28. Manufactured using the recombinant platform with variable regions (i.e. specificity) from the hybridoma JJ316.

Product References and Citations for CD28 recombinant antibody	Tacke et al. CD28-mediated induction of proliferation in resting T cells in vitro and in vivo without engagement of the T cell receptor: evidence for functionally distinct forms of CD28. Eur J Immunol PMID:9022025 Original Published Journal: Eur J Immunol Publication Note: Describes the in vivo and in vitro characterisation of JJ316.
Other Notes	Small volumes of CD28 recombinant 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 CD28 purchase	MBS488399 is a recombinant antibody targeting CD28. Also known as Anti-CD28 [JJ316]. Reactive in Rat.



Western Blot (WB) of CD28 recombinant antibody
Western Blot using anti-CD28 antibody Rat thymus (lane 1), rat lymph node (lane 2), rat thyroid (lane 3) and rat spleen (lane 4) sample were resolved on a 12% SDS PAGE gel and blots probed at 3 ug/ml before being detected by a secondary antibody. The expected band size at 25 kDa was observed.



Immunohistochemistry (IHC) of CD28 recombinant antibody
Immunohistochemical staining of rat spleen using anti-CD28 antibody Formalin fixed rat spleen slices were were stained at 3 ug/ml.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for CD28. It may not necessarily be applicable to this product.

NCBI GI #	6978625
NCBI GeneID	25660
NCBI Accession #	NP_037253.1
UniProt Primary Accession #	P31042
UniProt Related Accession #	P31042
GenBank Nucleotide #	NP_037253.1
NCBI Official Full Name	T-cell-specific surface glycoprotein CD28
NCBI Official Synonym Full Names	Cd28 molecule
NCBI Official Symbol	Cd28
NCBI Official Synonym Symbols	CD28RNA
UniProt Protein Name	T-cell-specific surface glycoprotein CD28
UniProt Synonym Protein Names	CD_antigen: CD28
Protein Family	T-cell-specific surface glycoprotein
UniProt Gene Name	Cd28
UniProt Entry Name	CD28_RAT
NCBI Protein Information	T-cell-specific surface glycoprotein CD28

NCBI Summary for CD28	costimulatory molecule involved in induction of T cell proliferation and initiation of the Th2 response; may be important in maintanence of basal IgE production; binds to B7-1 or B7-2 on antigen presenting cells (APCs) [RGD, Feb 2006]
UniProt Comments for CD28	Involved in T-cell activation, the induction of cell proliferation and cytokine production and promotion of T-cell survival. Enhances the production of IL4 and IL10 in T-cells in conjunction with TCR/CD3 ligation and CD40L costimulation.
Research Articles on CD28	**1.** this study identified two crucial immune-related molecules-CD28 and NFATc1, as putative targets of miR-145 in human and experimental myasthenia gravis
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