TotalSeq™-C0386 anti-human CD28 Antibody

Catalog# / Size	302963 / 10 µg
Clone	CD28.2
Regulatory Status	RUO
Workshop	V-CD28.05
Other Names	T44, Tp44
Isotype	Mouse IgG1, κ
Barcode Sequence	TGAGAACGACCCTAA
Description	CD28 is a 44 kD disulfide-linked homodimeric type I glycoprotein. It is a member of the immunoglobulin superfamily and is also known as T44 or Tp44. CD28 is expressed on most T lineage cells, NK cell subsets, and plasma cells. CD28 binds both CD80 and CD86 using a highly conserved motif MYPPY in the CDR3-like loop. CD28 is considered a major co-stimulatory molecule, inducing T lymphocyte activation and IL-2 synthesis, and preventing cell death. *In vitro* studies indicate that ligation of CD28 on T cells by CD80 and CD86 on antigen presenting cells provides a costimulatory signal required for T cell activation and proliferation.

Product Details

Verified Reactivity	Human, Cynomolgus, Rhesus
Reported Reactivity	Baboon, Capuchin Monkey, Chimpanzee, Pigtailed Macaque, Sooty Mangabey, Squirrel Monkey
Antibody Type	Monoclonal
Host Species	Mouse
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide and 1 mM EDTA.
Preparation	The antibody was purified by chromatography and conjugated with TotalSeq™-C oligomer under optimal conditions.
Concentration	0.5 mg/ml
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C. **Do not freeze.**
Application	PG - *Quality tested*
Recommended Usage	Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis and the oligomer sequence is confirmed by sequencing. TotalSeq™-C antibodies are compatible with 10x Genomics Chromium Single Cell Immune Profiling Solution. To maximize performance, it is strongly recommended that the reagent be titrated for each application, and that you centrifuge the antibody dilution before adding to the cells at 14,000xg at 2 - 8°C for 10 minutes. Carefully pipette out the liquid avoiding the bottom of the tube and add to the cell suspension. For Proteogenomics analysis, the suggested starting amount of this reagent for titration is ≤ 1.0 µg per million cells in 100 µL volume. Refer to the corresponding TotalSeq™ protocol for specific staining instructions. Buyer is solely responsible for determining whether Buyer has all intellectual property rights that are necessary for Buyer's intended uses of the BioLegend TotalSeq™ products. For example, for any technology platform Buyer uses with TotalSeq™, it is Buyer's sole responsibility to determine whether it has all necessary third party intellectual property rights to use that platform and TotalSeq™ with that platform.
Application Notes	The Ultra-LEAF™ Purified antibody (Endotoxin < 0.01 EU/µg, Azide-Free, 0.2 µm filtered) is recommended for highly sensitive assays.
Additional Product Notes	TotalSeq™ reagents are designed to profile protein levels at a single cell level following an optimized protocol similar to the CITE-seq workflow. A compatible single cell device (e.g. 10x Genomics Chromium System and Reagents) and sequencer (e.g. Illumina analyzers) are required.

Please contact technical support for more information, or visit biolegend.com/totalseq.

The barcode flanking sequences are CGGAGATGTGTATAAGAGACAGNNNNNNNNN (PCR handle), and NNNNNNNNNCCCATATAAGA*A*A (capture sequence). N represents either randomly selected A, C, G, or T, and * indicates a phosphorothioated bond, to prevent nuclease degradation.

View more applications data for this product in our Scientific Poster Library.

Application References

(PubMed link indicates BioLegend citation)

1. Schlossman S, *et al.* Eds. 1995. Leucocyte Typing V. Oxford University Press. New York.
2. Nunes J, *et al.* 1993. *Biochem. J.* 293:835.
3. Calea-Lauri J, *et al.* 1999. *J. Immunol.* 163:62.
4. Tazi A, *et al.* 1999. *J. Immunol.* 163:3511. (IHC)
5. Marti F, *et al.* 2001. *J. Immunol.* 166:197. (Costim)
6. Jeong SH, *et al.* 2004. *J. Virol.* 78:6995. (Costim)
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8. Scharschmidt E, *et al.* 2004. *Mol. Cell Biol.* 24:3860. (Costim)
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11. Ye Z, *et al.* 2008. *Infect. Immun.* 76:2541. PubMed
12. Magatti M, *et al.* 2008. *Stem Cells* 26:182. (FA) PubMed
13. Yoshino N, et al. 2008. *Exp. Anim. (Tokyo)* 49:97. (FC)
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17. Nomura T, *et al.* 2012. *J. Virol.* 86:6481. PubMed

Product Citations

1. Bachireddy P, *et al.* 2021. Cell Rep. 37:109992. PubMed
2. Shangguan S, *et al.* 2021. Elife. 10:. PubMed
3. Bziat V, *et al.* 2021. Cell. . PubMed

RRID

AB_2800751 (BioLegend Cat. No. 302963)

Antigen Details

Structure	Ig superfamily, type I transmembrane glycoprotein, homodimer, 44 kD
Distribution	Mature T cells, thymocytes, NK cell subsets, plasma cells, EBV-positive B cells
Function	T cell costimulation
Ligand/Receptor	CD80, CD86
Cell Type	B cells, NK cells, Plasma cells, T cells, Thymocytes, Tregs
Biology Area	Costimulatory Molecules, Immunology
Molecular Family	CD Molecules
Antigen References	1. Schlossman S, *et al.* Eds. 1995. Leucocyte Typing V. Oxford University Press. New York. 2. June CH, *et al.* 1994. *Immunol. Today* 15:321. 3. Linskey PS, *et al.* 1993. *Annu. Rev. Immunol.* 11:191.
Gene ID	940

Related Protocols

TotalSeq™-B or -C with 10x Feature Barcoding Technology

Other Formats

APC anti-human CD28, Biotin anti-human CD28, FITC anti-human CD28, PE anti-human CD28, PE/Cyanine5 anti-human CD28, Purified anti-human CD28, Alexa Fluor® 488 anti-human CD28, Alexa Fluor® 700 anti-human CD28, PerCP/Cyanine5.5 anti-human CD28, Pacific Blue™ anti-human CD28, PE/Cyanine7 anti-human CD28, Ultra-LEAF™ Purified anti-human CD28, Brilliant Violet 421™ anti-human CD28, Brilliant Violet 510™ anti-human CD28, Purified anti-human CD28 (Maxpar® Ready), PE/Dazzle™ 594 anti-human CD28, Brilliant Violet 785™ anti-human CD28, Brilliant Violet 650™ anti-human CD28, Brilliant Violet 711™ anti-human

CD28, APC/Fire™ 750 anti-human CD28, Alexa Fluor® 647 anti-human CD28, TotalSeq™-A0386 anti-human CD28, TotalSeq™-B0386 anti-human CD28, TotalSeq™-C0386 anti-human CD28, Brilliant Violet 605™ anti-human CD28, APC/Cyanine7 anti-human CD28, Brilliant Violet 750™ anti-human CD28, PE/Fire™ 810 anti-human CD28, GMP PE anti-human CD28, TotalSeq™-D0386 anti-human CD28, Spark Violet™ 423 anti-human CD28

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