

Spark Red™ 718 anti-mouse TIGIT (Vstm3) Antibody

Catalog# / Size	622211 / 25 µg 622212 / 100 µg
Clone	A17200C
Regulatory Status	RUO
Other Names	T-Cell Immunoreceptor with Ig and ITIM domains, T cell Ig, Immunoglobulin Domain-Containing Protein 9, V-Set, Transmembrane Domain-Containing Protein 3, WUCAM
Isotype	Rat IgG2a, κ
Description	TIGIT (T cell immunoreceptor with Ig and ITIM domains precursor) contains an immunoglobulin variable domain, a transmembrane domain and an immunoreceptor tyrosine-based inhibitory motif. TIGIT is an inhibitory receptor expressed on the surface of natural killer (NK) cells. TIGIT recognizes nectin and nectin-like adhesion molecules and thus plays a critical role in the innate immune response to malignant transformation. TIGIT in conjunction with CD226 forms a pathway that has prominent similarities to the costimulatory CD28/CTLA-4 pathway. CD226 and TIGIT bind the same set of ligands (CD155 and CD112) and CD226 is a positive regulator of T cell responses, while TIGIT inhibits them. Knockdown of TIGIT expression in human CD4 ⁺ T cells results in an increase of both T-bet and IFN-γ mRNA and protein expression. These effects are overcome by blocking CD226 signaling indicating that TIGIT exerts immunosuppressive effects by competing with CD226 for the same ligand, CD155. The binding of CD155 to TIGIT on human dendritic cells enhances the production of interleukin 10 and diminishes the production of interleukin 12p40. TIGIT shows an inhibitory effect on cell-signaling pathway in murine models of experimental autoimmune encephalomyelitis (EAE). Loss of TIGIT expression in mice results in hyperproliferative T cell responses and increased susceptibility to EAE.

Product Details

Verified Reactivity	Mouse
Antibody Type	Monoclonal
Host Species	Rat
Immunogen	Mouse TIGIT Recombinant Protein
Formulation	Phosphate-buffered solution, pH 7.2, containing 0.09% sodium azide
Preparation	The antibody was purified by affinity chromatography and conjugated with Spark Red™ 718 under optimal conditions.
Concentration	0.5 mg/mL
Storage & Handling	The antibody solution should be stored undiluted between 2°C and 8°C, and protected from prolonged exposure to light. Do not freeze.
Application	FC - Quality tested
Recommended Usage	Each lot of this antibody is quality control tested by immunofluorescent staining with flow cytometric analysis . For flow cytometric staining, the suggested use of this reagent is ≤ 1.0 µg per million cells in 100 µL volume. It is recommended that the reagent be titrated for optimal performance for each application. * Spark Red™ 718 has a maximum excitation of 697 nm and a maximum emission of 711 nm.
Excitation Laser	Red Laser (633 nm)

Antigen Details

Structure	Homodimer
Distribution	Human follicular B helper T cells (TFH), regulatory, memory and activated T cells, NK cells.
Function	Immunosuppressive effects by binding CD155 and modulating cytokine production by DC. Inhibits NK cell cytotoxicity. Inhibits T cell functions by competing with CD226. Tregs TIGIT ⁺ cells suppress proinflammatory Th1 and Th17 cells, but not Th2 cell responses.
Interaction	Dendritic cells, monocytes
Ligand/Receptor	Poliovirus receptor (PVR/CD155) and nectin-2 (PRR-2/CD112)
Cell Type	NK cells, T cells
Biology Area	Cell Adhesion, Cell Biology, Immunology, Signal Transduction
Molecular Family	Adhesion Molecules, Immune Checkpoint Receptors, Soluble Receptors
Antigen References	

1. Yu X, *et al.* 2009. *Nat. Immunol.* 10:48.
2. Stanitsky N, *et al.* 2009. *Proc. Natl. Acad. Sci. U S A.* 106:17858.
3. Joller N, *et al.* 2011. *J. Immunol.* 186:1338.
4. Tahara-Hanaoka S, *et al.* 2004. *Int. Immunol.* 16:533.
5. Lozano E, *et al.* 2012. *J. Immunol.* 188:3869.
6. Joller N, *et al.* 2014. *Immunity.* 40:569.
7. Deuss FA, *et al.* 2017. *J. Biol. Chem.* 292:11413.

Gene ID [100043314](#)

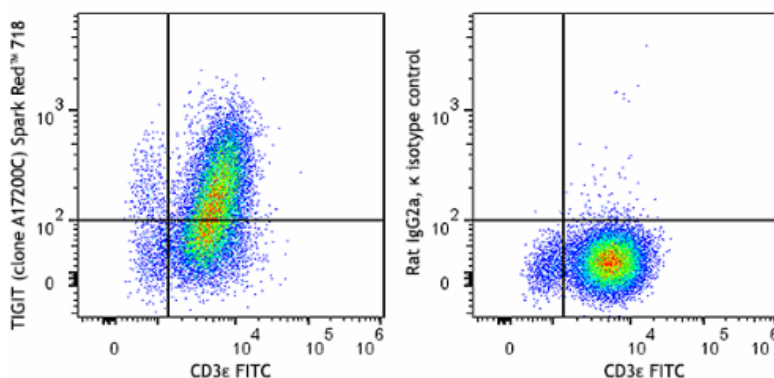
Related Protocols

- [Cell Surface Flow Cytometry Staining Protocol](#)

Other Formats

PE/Cyanine5 anti-mouse TIGIT (Vstm3), Spark PLUS B550™ anti-mouse TIGIT (Vstm3) Antibody, Spark Red™ 718 anti-mouse TIGIT (Vstm3), Ultra-LEAF™ Purified anti-mouse TIGIT (Vstm3), PE anti-mouse TIGIT (Vstm3)

Product Data



Con A and IL-2 stimulated BALB/c splenocytes (3 days) were stained with anti-mouse CD3ε (clone 145-2C11) FITC and anti-mouse TIGIT (Vstm3) (clone A17200C) Spark Red™ 718 (left) or rat IgG2a, κ Spark Red™ 718 isotype control (right).

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8999 BioLegend Way, San Diego, CA 92121 www.biolegend.com

Toll-Free Phone: 1-877-Bio-Legend (246-5343) Phone: (858) 768-5800 Fax: (877) 455-9587