

#### DESCRIPTION

<b>Species Reactivity</b>	Mouse
<b>Specificity</b>	Detects mouse GITR Ligand/TNFSF18 in direct ELISAs.
<b>Source</b>	Monoclonal Rat IgG <sub>1</sub> Clone # 994529
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant mouse GITR Ligand/TNFSF18 Thr47-Ser173 Accession # Q7TS55
<b>Conjugate</b>	Alexa Fluor 700 Excitation Wavelength: 675-700 nm Emission Wavelength: 723 nm
<b>Formulation</b>	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide.  *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

#### 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.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Flow Cytometry</b>	0.25-1 µg/10 <sup>6</sup> cells	NS0 Cell Line Transfected with Mouse GITR Ligand/TNFSF18

#### PREPARATION AND STORAGE

<b>Shipping</b>	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<b>Protect from light. Do not freeze.</b> <ul style="list-style-type: none"> <li>12 months from date of receipt, 2 to 8 °C as supplied.</li> </ul>

#### BACKGROUND

Glucocorticoid-induced TNF receptor superfamily-related protein ligand (GITRL) is a member of the TNF superfamily (TNFSF) and has been designated TNFSF18. Mouse GITRL cDNA encodes a 173 amino acid (aa) type II membrane protein with a C-terminal extracellular domain of 131 aa, an N-terminal cytoplasmic domain of 23 aa and a transmembrane domain of 19 aa. It shares approximately 60% aa sequence identity with human GITRL (2). Mouse GITRL is expressed at high levels in macrophages, dendritic cells and B cells. The expression is transiently upregulated by LPS stimulation. GITRL binds to the type I transmembrane protein GITR/TNFRSF18, which is a member of the TNF receptor superfamily that is predominantly expressed on CD25<sup>+</sup> regulatory CD4<sup>+</sup> T cells (Treg). GITR is also expressed on naïve CD4<sup>+</sup> CD25<sup>-</sup> T cells, where its expression is upregulated after antigen-driven activation (1, 2). Ligation of GITR has been found to induce nuclear factor (NF)-κB activation via TNF receptor-associated factor 2. GITRL provides costimulatory signals for activated CD4<sup>+</sup> CD25<sup>-</sup> T cells to enhance cell proliferation and augment cytokine production. On CD4<sup>+</sup> CD25<sup>+</sup> Treg cells, GITRL also provides costimulatory signals to induce proliferation, setting Treg cells in an active/hyperproliferative state that reverses the suppressive function of Treg cells. GITRL-GITR ligation provides important costimulatory signals that play important roles in modulating diverse T cell functions (1-4).

#### References:

1. Tone, M. *et al.* (2003) Proc. Natl. Acad. Sci. USA **100**:15059.
2. Ji, H. *et al.* (2004) J. Immunology **172**:5823.
3. Kanamaru, F. *et al.* (2004) J. Immunology **172**:7306.
4. Ronchetti, S. *et al.* (2004) Eur. J. Immunology **34**:613.

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