

#### DESCRIPTION

<b>Species Reactivity</b>	Mouse
<b>Specificity</b>	Detects mouse ST2/IL-33 R in ELISAs.
<b>Source</b>	Monoclonal Rat IgG <sub>2B</sub> Clone # 245707
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	S. frugiperda insect ovarian cell line Sf 21-derived recombinant mouse ST2/IL-33 R Ser27-Arg332 Accession # P14719
<b>Conjugate</b>	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 nm
<b>Formulation</b>	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details.  *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	P815 mouse mastocytoma cell line

#### 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> ● 12 months from date of receipt, 2 to 8 °C as supplied.

#### BACKGROUND

ST2, also known as IL-1 R4 and T1, is an Interleukin-1 receptor family glycoprotein that contributes to Th2 immune responses (1, 2). Mouse ST2 consists of a 306 amino acid (aa) extracellular domain (ECD) with three Ig-like domains, a 23 aa transmembrane segment, and a 212 aa cytoplasmic domain with an intracellular TIR domain (3). Alternate splicing of the 120 kDa mouse ST2 generates a soluble 60 kDa isoform that lacks the transmembrane and cytoplasmic regions (3). Within the ECD, mouse ST2 shares 68% and 81% aa sequence identity with human and rat ST2, respectively. ST2 is expressed on the surface of mast cells, activated Th2 cells, macrophages, and cardiac myocytes (4-7). It binds IL-33, a cytokine that is up-regulated by inflammation or mechanical strain in smooth muscle cells, airway epithelia, keratinocytes, and cardiac fibroblasts (4, 8). IL-33 binding induces the association of ST2 with IL-1R AcP, a shared signaling subunit that also associates with IL-1 RI and IL-1 Rrp2 (1, 9, 10). In macrophages, ST2 interferes with signaling from IL-1 RI and TLR4 by sequestering the adaptor proteins MyD88 and Mal (6). In addition to its role in promoting mast cell and Th2 dependent inflammation, ST2 activation enhances antigen induced hypernociception and protects from atherosclerosis and cardiac hypertrophy (4, 11-13). The soluble ST2 isoform is released by activated Th2 cells and strained cardiac myocytes and is elevated in the serum in allergic asthma (5, 7, 14). Soluble ST2 functions as a decoy receptor that blocks IL-33's ability to signal through transmembrane ST2 (9, 12-14).

#### References:

1. Barksby, H.E. *et al.* (2007) *Clin. Exp. Immunol.* **149**:217.
2. Gadina, M. and C.A. Jefferies (2007) *Science STKE* **2007**:pe31.
3. Yanagisawa, K. *et al.* (1993) *FEBS Lett.* **318**:83.
4. Schmitz, J. *et al.* (2005) *Immunity* **23**:479.
5. Lecart, S. *et al.* (2002) *Eur. J. Immunol.* **32**:2979.
6. Brint, E.K. *et al.* (2004) *Nat. Immunol.* **5**:373.
7. Weinberg, E.O. *et al.* (2002) *Circulation* **106**:2961.
8. Sanada S. *et al.* (2007) *J. Clin. Invest.* **117**:1538.
9. Palmer, G. *et al.* (2008) *Cytokine* **42**:358.
10. Chackerian, A.A. *et al.* (2007) *J. Immunol.* **179**:2551.
11. Allakhverdi, Z. *et al.* (2007) *J. Immunol.* **179**:2051.
12. Verri Jr., W.A. *et al.* (2008) *Proc. Natl. Acad. Sci.* **105**:2723.
13. Miller, A.M. *et al.* (2008) *J. Exp. Med.* **205**:339.
14. Hayakawa, H. *et al.* (2007) *J. Biol. Chem.* **282**:26369.

**PRODUCT SPECIFIC NOTICES**

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc. and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.