

DESCRIPTION

Source	<i>Spodoptera frugiperda</i> , Sf 21 (baculovirus)-derived		
	Mouse ST2 (Ser27-Ser342) Accession # P14719	IEGRMD	Human IgG ₁ (Pro100-Lys330)
	N-terminus		C-terminus

N-terminal Sequence Ser27

Analysis

Structure / Form Disulfide-linked homodimer

Predicted Molecular Mass 63 kDa (monomer)

SPECIFICATIONS

SDS-PAGE 73 kDa, reducing conditions

Activity Measured by its ability to bind Recombinant Mouse IL-33 (Catalog # 3626-ML) in a functional ELISA with an estimated $K_D < 50$ nM. Schmitz, J. *et al.* (2005) *Immunity* **23**:479.

Endotoxin Level <0.10 EU per 1 µg of the protein by the LAL method.

Purity >95%, by SDS-PAGE under reducing conditions and visualized by silver stain.

Formulation Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 100 µg/mL in sterile PBS.

Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

Stability & Storage Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

- 12 months from date of receipt, -20 to -70 °C as supplied.
- 1 month, 2 to 8 °C under sterile conditions after reconstitution.
- 3 months, -20 to -70 °C under sterile conditions after reconstitution.

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 upregulated 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 R rp2 (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:

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