Biotinylated Recombinant Human ST2/IL-33R Avi-tag His-tag

Catalog Number: AVI11272

DESCRIPTION

Source	Chinese Hamster Ovary cell line, CHO-derived human ST2/IL-33R protein Lys19-Ser328, with a C-ter Avi-tag & 6-His tag Accession # Q01638.4
N-terminal Sequence Analysis	Lys19
Structure / Form	Biotinylated via Avi-tag
Predicted Molecular Mass	39 kDa

SPECIFICATIONS

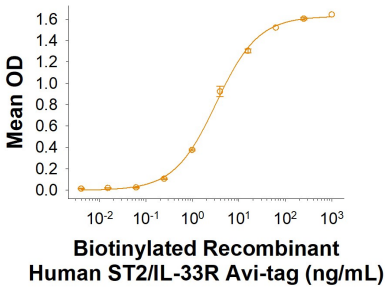
SDS-PAGE	60-110 kDa, under reducing conditions.
Activity	Measured by its binding ability in a functional ELISA. Biotinylated Recombinant Human ST2/IL-33R Avi-tag His-tag (Catalog # AVI11272) binds Recombinant Human IL-33 (Catalog # 3625-IL/CF) with an ED_{50} of 0.800-9.60 ng/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 250 µg/mL in sterile water.
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.

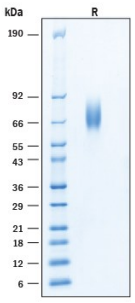
DATA

Binding Activity



Biotinylated Recombinant Human ST2/IL-33R Avi-tag His-tag Protein Binding Activity. Biotinylated Recombinant Human ST2/IL-33R Avi-tag His-tag Protein (Catalog # AVI11272) binds Recombinant Human IL-33 (Catalog # 3625-IL/CF) with an ED_{50} of 0.800-9.60 ng/mL.

SDS-PAGE



Biotinylated Recombinant Human ST2/IL-33R Avi-tag His-tag Protein SDS-PAGE. 2 µg/lane of Biotinylated Recombinant Human ST2/IL-33R Avi-tag His-tag Protein (Catalog # AVI11272) was resolved with SDS-PAGE under reducing (R) condition and visualized by Coomassie® Blue staining, showing bands at 60-110 kDa.

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BACKGROUND

Serum stimulation-2 (ST2), also known as Interleukin receptor like-1 (IL1RL1) and T1, is a member of the Interleukin-1 receptor superfamily family glycoprotein that contributes to Th2 immune responses (1, 2). Human ST2 consists of an extracellular domain (ECD) with three Ig-like domains, a transmembrane segment, and a cytoplasmic domain with an intracellular Toll/interleukin-1 receptor (TIR) domain (3, 4). Within the ECD, human ST2 shares 68% and 64% amino acid sequence identity with mouse and rat ST2, respectively. Alternate splicing of human ST2 generates a soluble isoform that lacks the transmembrane and cytoplasmic regions as well as an isoform that additionally lacks the third Ig-like domain (4). ST2 is expressed on the surface of mast cells, activated Th2 cells, macrophages, and cardiac myocytes (5-8). It binds IL33, a cytokine that is upregulated by inflammation or mechanical strain in smooth muscle cells, airway epithelia, keratinocytes, and cardiac fibroblasts (5, 9). IL-33 binding induces the association of ST2 with IL1R AcP, a shared signaling subunit that also associates with IL1RI and IL1R rp2 (1, 10, 11). In macrophages, ST2 interferes with signaling from IL1RI and TLR4 by sequestering the adaptor proteins MyD88 and Mal (7). 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 (5, 12-14). The soluble ST2 isoform is released by activated Th2 cells and strained cardiac myocytes and is elevated in the serum in allergic asthma (6, 8, 15). Soluble ST2 functions as a decoy receptor that blocks IL33 signaling by full-length ST2 (10, 13-15). Our Avi-tag Biotinylated ST2 features biotinylation at a single site contained within the Avi-tag, a unique 15 amino acid peptide. Protein orientation will be uniform when bound to streptavidin-coated surface due to the precise control of biotinylation and the rest of the protein is unchanged so there is no interference in the protein's bioactivity.

References:

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