

DESCRIPTION

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|-------------------------------------|---|-----------------------------|-------------------|
| Source | Human embryonic kidney cell, HEK293-derived mouse Serglycin/SRGN protein | | |
| | <div>Mouse Serglycin/SRGN (Tyr26-Ile152) Accession # P13609</div> | <div>HPGGSGGGSGGGSGGS</div> | <div>HHHHHH</div> |
| | N-terminus | | C-terminus |
| N-terminal Sequence Analysis | Tyr26 | | |
| Predicted Molecular Mass | 16 kDa | | |

SPECIFICATIONS

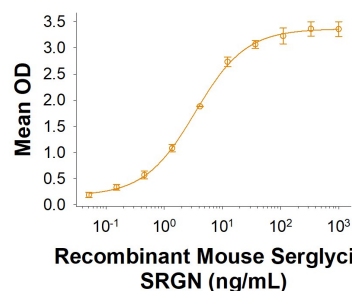
| | |
|------------------------|---|
| SDS-PAGE | 55 kDa and above, under reducing conditions |
| Activity | Measured by its binding ability in a functional ELISA. When Recombinant Mouse CD44 Fc Chimera (Catalog # 6127-CD) is immobilized at 0.5 µg/mL (100 µL/well), Recombinant Mouse Serglycin/SRGN His-tag (Catalog # 10190-SN) binds with an ED ₅₀ of 1.5-15 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. See Certificate of Analysis for details. |

PREPARATION AND STORAGE

| | |
|--------------------------------|---|
| Reconstitution | Reconstitute at 500 µg/mL in PBS. |
| Shipping | The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. |
| Stability & Storage | <p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 2 weeks, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, -20 to -70 °C under sterile conditions after reconstitution. |

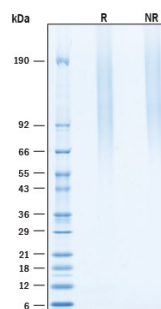
DATA

Binding Activity



When Recombinant Mouse CD44 Fc Chimera (Catalog # 6127-CD) is immobilized at 0.5 µg/mL (100 µL/well), Recombinant Mouse Serglycin/SRGN His-tag (Catalog # 10190-SN) binds with an ED₅₀ of 1.5-15 ng/mL.

SDS-PAGE



2 µg/lane of Recombinant Mouse Serglycin/SRGN His-tag (Catalog # 10190-SN) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining. Due to heavily O-linked glycosylation, it runs as a smear above 55 kDa.

BACKGROUND

Serglycin, also known as hematopoietic proteoglycan core protein or secretory granule proteoglycan core protein, is a 16 kDa polypeptide with extensive glycosylation modification. Proteoglycans (PGs) are synthesized by all cells and distributed in all tissues. There are three main groups of PGs based on localization: the cell-surface associated PGs, such as Syndecans and Glypicans, the matrix secreted PGs, such as Versican and Perlecan, and the intracellular PGs, with Serglycin being the only known member of this subfamily to date (1). Serglycin was initially found as a hematopoietic PG present in intracellular secretory compartments. Recent studies suggest that Serglycin is expressed by a variety of cell types, where it participates in both physiological functions and pathologic conditions (2, 3). Serglycin is important in formation of secretory granules and mediates storage of various compounds in secretory vesicles. In connective tissue and mucosal mast cells, Serglycin is required for storage and secretion of chemicals and proteases such as histamine, chymase, tryptase and carboxypeptidase (4). Serglycin is also important for storage of granzyme B in T-lymphocytes and localizing neutrophil elastase in azurophil granules of neutrophils (5). It has been found that Serglycin regulates the secretion of TNF-alpha in macrophages (6). Serglycin consists of a small core protein containing serine/glycine repeats, with eight such G-S repeats found in human Serglycin and ten in mouse Serglycin (1). Each serine of this repeat region is a potential GAG attachment site. The size of the PG varies according to the GAG chain length, number, and type (7). In connective tissue mast cells the covalently attached glycosaminoglycan is heparin, whereas mucosal mast cells and activated macrophages contain oversulfated chondroitin sulfate (type E) (8). Within the core protein, mouse Serglycin shares 66% and 38% amino acid identity to rat and human Serglycin. Serglycin can inhibit both the classical and lectin pathways of complement through direct interaction with C1q and mannose-binding lectin (9). *In vitro* study using human umbilical vein endothelial cells (HUVECs) suggested lipopolysaccharide and interleukin-1 β played important role in Serglycin synthesis and secretion (10). In addition, Serglycin can promote myeloma cell adhesion to bone marrow stromal cells as well as of non-small cell lung cancer cell migration, invasion and its colonization in the lung and liver through CD44 (11, 12). Serglycin is directly involved in myeloma tumor progression thus suggesting it may be a therapeutic target for multiple myeloma (11).

References:

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