Recombinant Mouse TSG-6

Catalog Number: 2326-TS

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived Trp18-Leu275, with a C-terminal 6-His tag Accession # O08859
N-terminal Sequence Analysis	Trp18
Predicted Molecular Mass	29.8 kDa

SPECIFICATIONS

SDS-PAGE	39 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. Immobilized rmTSG-6 can bind biotinylated Hyaluronan with an estimated K_D <1 nM.
Endotoxin Level	<1.0 EU per 1 µg of the protein by the LAL method.
Purity	>90%, 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

TSG-6 (TNF-stimulated gene 6; also named TNFIP6) is a secreted, 35 - 39 kDa group A member of the LINK-Module superfamily of proteins (1 - 4). Mouse TSG-6 is synthesized as a 275 amino acid (aa) precursor. It contains a 17 aa signal sequence and a 258 aa mature region (5, 6). The mature region has an N-terminal link module (aa 36 - 129) and a C-terminal CUB (C1s/C1r; urchin embryonic growth factor; BMP1) domain (aa 135 - 246). Link modules bind hyaluronan (HA) and participate in extracellular matrix (ECM) assembly (7). Mature mouse TSG-6 shares 97%, 94% and 94% aa identity with rat, human and canine TSG-6, respectively. Cells reported to express TGF-6 include activated fibroblasts, synoviocytes, chondrocytes, neutrophils, proximal tubular epithelium, bronchial epithelium, endothelium, and visceral plus vascular smooth muscle (2, 8). TSG-6 has multiple functions, many of which involve the ECM. It is suggested to stabilize HA-rich ECM. It does so by serving as an intermediary, or as a link between the individual subunits of the extracellular decameric pentraxin 3 and the surrounding hyaluronan matrix (9). It also provides structure and organization to hyaluronan. This is accomplished by a TSG-6 mediated transfer of an 80 - 85 kDa protein subunit from IαI (inter-α-inhibitor) to HA. IαI is a four-component, 225 kDa serine protease inhibitor. It contains a protease inhibitor subunit (bikunin), two independent, accompaning protein chains (HC1 and HC2), and a short chondroitin sulfate linking moiety. TSG-6 is a catalyst for the removal and transient binding of either HC chain. Each chain is subsequently transferred and covalently-linked to the surrounding HA. This provides substance and reinforcement to the ECM (1, 2, 10, 11, 12). This disassembly of IαI also leads to free bikunin, which in the “free” state becomes a potent inhibitor of serine proteases (8).

References:

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