SANTA CRUZ BIOTECHNOLOGY, INC.

TSG-6 (E-1): sc-377277

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

The TSG6 gene is transcribed in normal fibroblasts and activated by binding of the cytokines TNFα and IL-1 at AP-1 and NF-IL6 sites in its promoter. TSG-6 is a glycoprotein and a member of the hyaluronan-binding protein family, which includes cartilage link protein, proteoglycan core protein and the adhesion receptor CD44. TSG-6 is highly homologous to CD44, particularly in the hyaluronic acid-binding domain. TSG-6 is found in TNF-treated cells; its expression is rapidly activated by TNFα, IL-1 and lipopolysaccharide in normal fibroblasts, peripheral blood mononuclear cells, synovial cells and chondrocytes. The presence of TSG-6 in synovial fluid suggests a possible role in rheumatoid arthritis. TSG-6 forms a stable complex with components of the serine protease inhibitor, inter-α-inhibitor (Iαl)). TSG-6 potentiates the inhibitory effect of Iαl on the protease activity of plasmin. Through their cooperative inhibitory effect on plasmin, TSG-6 and Iαl can modulate the protease network and thus inhibit inflammation.

CHROMOSOMAL LOCATION

Genetic locus: TNFAIP6 (human) mapping to 2q23.3.

SOURCE

TSG-6 (E-1) is a mouse monoclonal antibody raised against amino acids 135-277 mapping at the C-terminus of TSG-6 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TSG-6 (E-1) is available conjugated to agarose (sc-377277 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377277 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377277 PE), fluorescein (sc-377277 FITC), Alexa Fluor® 488 (sc-377277 AF488), Alexa Fluor® 546 (sc-377277 AF546), Alexa Fluor® 594 (sc-377277 AF594) or Alexa Fluor® 647 (sc-377277 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-377277 AF680) or Alexa Fluor® 790 (sc-377277 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

APPLICATIONS

TSG-6 (E-1) is recommended for detection of precursor and mature chain of TSG-6 of human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for TSG-6 siRNA (h): sc-39819, TSG-6 shRNA Plasmid (h): sc-39819-SH and TSG-6 shRNA (h) Lentiviral Particles: sc-39819-V.

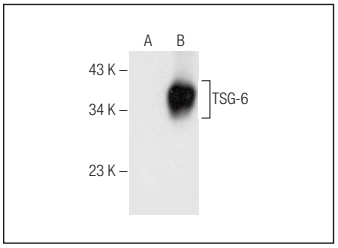
Molecular Weight of TSG-6: 35 kDa.

Positive Controls: TSG-6 (h): 293T Lysate: sc-114157.

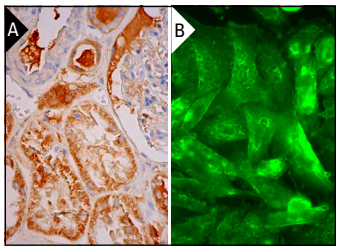
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



TSG-6 (E-1): sc-377277. Western blot analysis of TSG-6 expression in non-transfected: sc-117752 (**A**) and human TSG-6 transfected: sc-114157 (**B**) 293T whole cell lysates.



TSG-6 (E-1): sc-377277. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing cytoplasmic staining of cells in tubules and staining of plasma in blood vessels (**A**). TSG-6 (E-1) Alexa Fluor® 488: sc-377277 AF488. Direct immunofluorescence staining of formalin-fixed SW480 cells showing cell surface localization. Blocked with UltraCruz® Blocking Reagent: sc-516214 (**B**).

SELECT PRODUCT CITATIONS

1. Wang, N., et al. 2012. Novel mechanism for mesenchymal stem cells in attenuating peritoneal adhesion: accumulating in the lung and secreting tumor necrosis factor α-stimulating gene-6. Stem Cell Res. Ther. 3: 51.
2. Campbell, M.R., et al. 2013. Novel hematopoietic target genes in the Nrf2-mediated transcriptional pathway. Oxid. Med. Cell. Longev. 2013: 120305.
3. Chou, C.H., et al. 2018. TSG-6—a double-edged sword for osteoarthritis (OA). Osteoarthr. Cartil. 26: 245-254.
4. Rychkov, D., et al. 2021. Cross-tissue transcriptomic analysis leveraging machine learning approaches identifies new biomarkers for rheumatoid arthritis. Front. Immunol. 12: 638066.
5. Gong, S.C., et al. 2022. Antifibrotic TSG-6 expression is synergistically increased in both cells during coculture of mesenchymal stem cells and macrophages via the JAK/STAT signaling pathway. Int. J. Mol. Sci. 23: 13122.
6. Kwon, H.Y., et al. 2023. Role of TGF-β and p38 MAPK in TSG-6 expression in adipose tissue-derived stem cells *in vitro* and *in vivo*. Int. J. Mol. Sci. 25: 477.
7. Pearson, A., et al. 2023. Deletion of PTEN in microglia ameliorates chronic neuroinflammation following repetitive mTBI. Mol. Cell. Neurosci. 125: 103855.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.