

# TUG (4A11A6G11): sc-53952

## BACKGROUND

Glut4 is a twelve pass transmembrane protein (12TM) whose carboxy-terminus may dictate its cellular localization. Aberrant Glut4 expression has been suggested to contribute to such maladies as obesity and diabetes. Glut4 null mice have shown that while functional Glut4 protein is not required for maintaining normal glucose levels, it is necessary for sustained growth, normal cellular glucose, fat metabolism and prolonged longevity. TUG (ASPL in humans) regulates the trafficking of glucose via Glut4. Full-length TUG forms a complex with Glut4 and in 3T3-L1 adipocytes and this complex is present in unstimulated cells and is disassembled by Insulin. TUG acts by trapping endocytosed Glut4 and tethering it intracellularly. Insulin mobilizes this pool of retained Glut4 by releasing the tether.

## REFERENCES

- Joyama, S., et al. 1999. Chromosome rearrangement at 17q25 and Xp11.2 in alveolar soft-part sarcoma: A case report and review of the literature. *Cancer* 86: 1246-1250.
- Heimann, P., et al. 2001. Fusion of a novel gene, RCC17, to the TFE3 gene in t(X;17)(p11.2;q25.3)-bearing papillary renal cell carcinomas. *Cancer Res.* 61: 4130-4135.
- Ladanyi, M., et al. 2001. The der(17)t(X;17)(p11;q25) of human alveolar soft part sarcoma fuses the TFE3 transcription factor gene to ASPL, a novel gene at 17q25. *Oncogene* 20: 48-57.
- Bogan, J.S., et al. 2003. Functional cloning of TUG as a regulator of Glut4 glucose transporter trafficking. *Nature* 425: 727-733.
- Saltiel, A.R. 2003. A TUG on glucose transport. *Nat. Med.* 9: 1352.

## CHROMOSOMAL LOCATION

Genetic locus: Aspsr1 (mouse) mapping to 11 E2.

## SOURCE

TUG (4A11A6G11) is a mouse monoclonal antibody raised against purified truncated recombinant TUG of mouse origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2b</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TUG (4A11A6G11) is available conjugated to agarose (sc-53952 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-53952 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-53952 PE), fluorescein (sc-53952 FITC), Alexa Fluor® 488 (sc-53952 AF488), Alexa Fluor® 546 (sc-53952 AF546), Alexa Fluor® 594 (sc-53952 AF594) or Alexa Fluor® 647 (sc-53952 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-53952 AF680) or Alexa Fluor® 790 (sc-53952 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## RESEARCH USE

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

## APPLICATIONS

TUG (4A11A6G11) is recommended for detection of TUG of mouse origin by Western Blotting (starting dilution 1:200, 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) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

Suitable for use as control antibody for TUG siRNA (m): sc-72019, TUG shRNA Plasmid (m): sc-72019-SH and TUG shRNA (m) Lentiviral Particles: sc-72019-V.

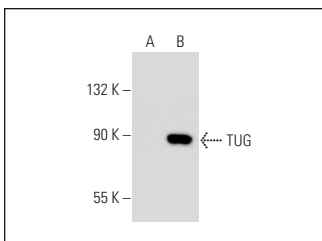
Molecular Weight of TUG: 60 kDa.

Positive Controls: TUG (m): 293T Lysate: sc-126165.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

## DATA



TUG (4A11A6G11): sc-53952. Western blot analysis of TUG expression in non-transfected: sc-117752 (A) and mouse TUG transfected: sc-126165 (B) 293T whole cell lysates.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.