SANTA CRUZ BIOTECHNOLOGY, INC.

GW182 (E-1): sc-376939

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

GW bodies (GWBs) function as storage centers and degradation sites for mRNAs. GWBs are crucial intracellular structures for miRNA function. Disassembly or disruption of GWBs has been shown to impair siRNA and miRNA silencing activity. GW182 is a cytoplasmic marker protein for GWBs. GW182 autoantigen, also designated EMSY interactor protein, plays a role in the maintenance and stability of the GWB structures. GW182 is a ubiquitously expressed protein that binds to mRNA. The GW182 protein may interact with endogenous argonaute-2 (Ago2), which is also enriched in GWBs. The GW182 protein is detected in patients with ataxia, Sjoegren's syndrome (SS) and sensor neuropathy disease, who develop autoantibodies against GWB structure proteins.

CHROMOSOMAL LOCATION

Genetic locus: TNRC6A (human) mapping to 16p12.1; Tnrc6a (mouse) mapping to 7 F3.

SOURCE

GW182 (E-1) is a mouse monoclonal antibody raised against amino acids 1856-1925 mapping near the C-terminus of GW182 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

RESEARCH USE

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

APPLICATIONS

GW182 (E-1) is recommended for detection of GW182 isoforms 1-4 of mouse, rat and 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).

GW182 (E-1) is also recommended for detection of GW182 isoforms 1-4 in additional species, including canine.

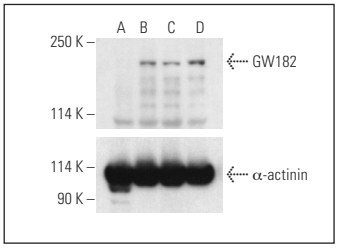
Suitable for use as control antibody for GW182 siRNA (h): sc-45516, GW182 siRNA (m): sc-45517, GW182 shRNA Plasmid (h): sc-45516-SH, GW182 shRNA Plasmid (m): sc-45517-SH, GW182 shRNA (h) Lentiviral Particles: sc-45516-V and GW182 shRNA (m) Lentiviral Particles: sc-45517-V.

Molecular Weight of GW182: 182 kDa.

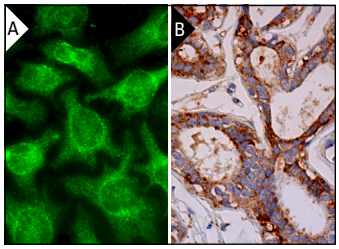
RECOMMENDED SUPPORT REAGENTS

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



GW182 (E-1): sc-376939. Western blot analysis of GW182 expression in untreated (**A**), Trichostatin A treated (**B**), Hydroxyurea treated (**C**) and Etoposide treated (**D**) HeLa whole cell lysates. α-actinin (H-2): sc-17829 used as loading control. Detection reagent used: m-IgG_1 BP-HRP: sc-525408.



GW182 (E-1): sc-376939. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast tissue showing cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Ahmed, K., Kren, B.T., Abedin, M.J., Vogel, R.I., Shaughnessy, D.P., Nacusi, L., Korman, V.L., Li, Y., Dehm, S.M., Zimmerman, C.L., Niehans, G.A., Unger, G.M. and Trembley, J.H. 2016. CK2 targeted RNAi therapeutic delivered via malignant cell-directed tenfibgen nanocapsule: dose and molecular mechanisms of response in xenograft prostate tumors. Oncotarget 7: 61789-61805.
2. Dhillon, P. and Durga Rao, C. 2018. Rotavirus induces formation of remodeled stress granules and P-bodies and their sequestration in viroplasms to promote progeny virus production. J. Virol. 92: e01363-18.

PROTOCOLS

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

CONJUGATES

See **GW182 (A-6): sc-374458** for GW182 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.