

GW182 (M-17): sc-47036

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 Glycin-tryptophan protein of 182 kDa or EMSY interactor protein, plays a role in the maintenance and stability of the GWB structures. It is an ubiquitously expressed protein that binds to mRNA. The GW182 protein may interact with endogenous Argonaute-2 (Ago2), which is also enriched in GWBs. The gene encoding for the GW182 protein, TNRC6A, is detected in patients with ataxia, Sjogren's syndrome (SS) and sensor neuropathy diseases. Patients with these diseases develop autoantibodies against GWB structure proteins.

REFERENCES

1. Eystathiou, T., et al. 2002. A phosphorylated cytoplasmic autoantigen, GW182, associates with a unique population of human mRNAs within novel cytoplasmic speckles. *Mol. Biol. Cell* 13: 1338-1351.
2. Eystathiou, T., et al. 2003. Clinical and serological associations of auto-antibodies to GW bodies and a novel cytoplasmic autoantigen GW182. *J. Mol. Med.* 81: 811-818.
3. Eystathiou, T., et al. 2003. The GW182 protein colocalizes with mRNA degradation associated proteins hDcp1 and hLSm4 in cytoplasmic GW bodies. *RNA* 9: 1171-1173.
4. Eystathiou, T., et al. 2003. A panel of monoclonal antibodies to cytoplasmic GW bodies and the mRNA binding protein GW182. *Hybrid Hybridomics* 22: 79-86.
5. Yang, Z., et al. 2004. GW182 is critical for the stability of GW bodies expressed during the cell cycle and cell proliferation. *J. Cell. Sci.* 117: 5567-5578.
6. Jakymiw, A., et al. 2005. Disruption of GW bodies impairs mammalian RNA interference. *Nat. Cell Biol.* 7: 1167-1174.
7. Rehwinkel, J., et al. 2005. A crucial role for GW182 and the DCP1:DCP2 decapping complex in miRNA-mediated gene silencing. *RNA* 11: 1640-1647.

CHROMOSOMAL LOCATION

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

SOURCE

GW182 (M-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of GW182 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-47036 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

GW182 (M-17) is recommended for detection of GW182 isoforms 1, 2 and 3 of mouse and human 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), 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).

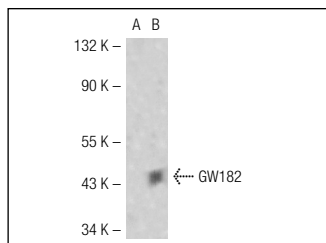
GW182 (M-17) is also recommended for detection of GW182 isoforms 1, 2 and 3 in additional species, including canine, bovine and avian.

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.

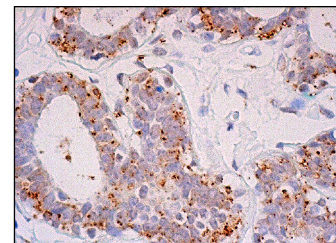
Molecular Weight of GW182: 182 kDa.

Positive Controls: GW182 (h): 293T Lysate: sc-113721.

DATA



GW182 (M-17): sc-47036. Western blot analysis of GW182 expression in non-transfected: sc-117752 (A) and human GW182 transfected: sc-113721 (B) 293T whole cell lysates.



GW182 (M-17): sc-47036. Immunoperoxidase staining of formalin fixed, paraffin-embedded human breast tissue showing cytoplasmic processing bodies (p-bodies) staining of glandular cells.

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.

PROTOCOLS

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



Try **GW182 (A-6): sc-374458** or **GW182 (E-1): sc-376939**, our highly recommended monoclonal alternatives to GW182 (M-17). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **GW182 (A-6): sc-374458**.