

# GW182 (F-8): sc-514735

## 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, Sjogren's syndrome (SS) and sensor neuropathy disease, who 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 autoantibodies 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.

## SOURCE

GW182 (F-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1538-1559 within an internal region of GW182 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-514735 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## APPLICATIONS

GW182 (F-8) is recommended for detection of GW182 isoforms 1, 2 and 3 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

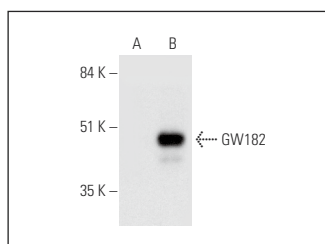
Molecular Weight of GW182: 182 kDa.

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

## 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.

## DATA



GW182 (F-8): sc-514735. Western blot analysis of GW182 expression in non-transfected: sc-117752 (A) and human GW182 transfected: sc-113721 (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.

## RESEARCH USE

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



See **GW182 (4B6): sc-56314** for GW182 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.