SANTA CRUZ BIOTECHNOLOGY, INC.

GW182 (G-10): sc-374459

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 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 GW182 protein is detected in patients with ataxia, Sjoegren's syndrome (SS) and sensor neuropathy disease, who develop autoantibodies against GWB structure proteins.

REFERENCES

1. Eystathioy, 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. Eystathioy, 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. Eystathioy, 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. Eystathioy, 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.

CHROMOSOMAL LOCATION

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

SOURCE

GW182 (G-10) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 1555-1593 within an internal region of GW182 of human origin.

PRODUCT

Each vial contains 200 µg IgG_3 in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-374459 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

GW182 (G-10) is recommended for detection of GW182 isoforms 1, 2 and 3 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

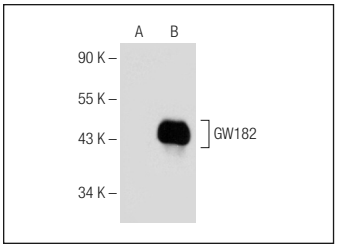
GW182 (G-10) is also recommended for detection of GW182 isoforms 1, 2 and 3 in additional species, including canine, bovine and avian.

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 (G-10): sc-374459. 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.

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.