SANTA CRUZ BIOTECHNOLOGY, INC.

# AKAP 12 (M-300): sc-33578


The Power to Question

## BACKGROUND

A-kinase anchor protein 12 (AKAP12), also known as Gravin, Ssecks and AKAP250, is a 1,782 amino acid cell growth related protein that is a member of the AKAP family and contains 3 AKAP domains and binds to the dimeric RII-α regulatory subunit of PKC. AKAP12 is an anchoring protein that mediates the compartmentalization of protein kinase A (PKA) and protein kinase C (PKC) and serves as a scaffold protein in signal transduction. AKAP12 is expressed in endothelial cells, cultured fibroblasts and osteosarcoma cells with localization in the cell cortex and cytoskeleton, but there does not appear to be expression in platelets, leukocytes, monocytic cell lines or peripheral blood cells. Patients with myasthenia gravis (MG) are able to produce antibodies against the C-terminus of AKAP12. The AKAP12 gene is conserved in chimpanzee, Rhesus monkey, canine, bovine, mouse, and rat. The human AKAP12 gene maps to chromosome 6q25.1.

## REFERENCES

1. Nauert, J.B., et al. 1997. Gravin, an autoantigen recognized by serum from myasthenia gravis patients, is a kinase scaffold protein. Curr. Biol. 7: 52-62.
2. Choi, M.C., et al. 2004. AKAP12/Gravin is inactivated by epigenetic mechanism in human gastric carcinoma and shows growth suppressor activity. Oncogene 23: 7095-7103.
3. Streb, J.W., et al. 2004. Multiple promoters direct expression of three AKAP12 isoforms with distinct subcellular and tissue distribution profiles. J. Biol. Chem. 279: 56014-56023.
4. Su, B., et al. 2013. Adhesion-mediated cytoskeletal remodeling is controlled by the direct scaffolding of Src from FAK complexes to lipid rafts by SSeCKS/AKAP12. Oncogene 32: 2016-2026.
5. Mostafa, M.R., et al. 2013. Gravin gene expression in acute myeloid leukemia. Med. Oncol. 30: 548.
6. Schott, M.B., et al. 2013. Receptor-mediated $Ca^{2+}$ and PKC signaling triggers the loss of cortical PKA compartmentalization through the redistribution of gravin. Cell. Signal. 25: 2125-2135.

## CHROMOSOMAL LOCATION

Genetic locus: Akap12 (mouse) mapping to 10 A1.

## SOURCE

AKAP 12 (M-300) is a rabbit polyclonal antibody raised against amino acids 1385-1684 mapping at the C-terminus of AKAP 12 of mouse origin.

## PRODUCT

Each vial contains 200 µg IgG 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.

## APPLICATIONS

AKAP 12 (M-300) is recommended for detection of AKAP 12 of mouse and rat 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).

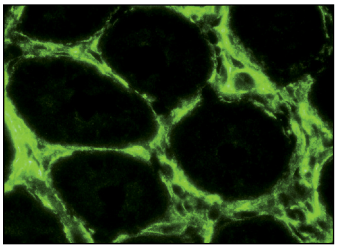
Suitable for use as control antibody for AKAP 12 siRNA (m): sc-44761, AKAP 12 shRNA Plasmid (m): sc-44761-SH and AKAP 12 shRNA (m) Lentiviral Particles: sc-44761-V.

Molecular Weight of AKAP 12 isoforms: 287/305 kDa.

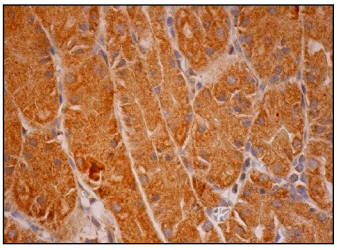
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

## DATA



AKAP 12 (M-300): sc-33578. Immunofluorescence staining of normal mouse intestine frozen section showing membrane and cytoplasmic staining.



AKAP 12 (M-300): sc-33578. Immunoperoxidase staining of formalin fixed, paraffin-embedded human lower stomach tissue showing cytoplasmic staining of glandular cells.

## RESEARCH USE

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