ARG65250
anti-DAG1 antibody

Package: 100 µg
Store at: -20°C

Summary

Product Description	Goat Polyclonal antibody recognizes DAG1
Tested Reactivity	Hu, Ms, Rat
Predict Reactivity	Cow, Dog
Tested Application	IHC-P, WB
Specificity	This antibody is expected to recognize both the precursor and the mature alpha-dystroglycan, but not the mature beta-dystroglycan.
Host	Goat
Clonality	Polyclonal
Isotype	IgG
Target Name	DAG1
Species	Human
Immunogen	C-HVGKHEYFMHATDK
Conjugation	Un-conjugated
Alternate Names	Dystrophin-associated glycoprotein 1; Alpha-DG; DAG; 156DAG; AGRNR; Dystroglycan; A3a; MDDGC9; MDDGC7; Beta-DG

Application Instructions

Application table

Application	Dilution
IHC-P	5 µg/ml
WB	0.1 - 0.3 µg/ml

Application Note

WB: Recommend incubate at RT for 1h.
IHC-P: Antigen Retrieval: Steam tissue section in Citrate buffer (pH 6.0).
* The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.

Properties

Form	Liquid
Purification	Purified from goat serum by ammonium sulphate precipitation followed by antigen affinity chromatography using the immunizing peptide.
Buffer	Tris saline (pH 7.3), 0.02% Sodium azide and 0.5% BSA
Preservative	0.02% Sodium azide
Stabilizer	0.5% BSA
Concentration	0.5 mg/ml

Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C or below. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.
Note	For laboratory research only, not for drug, diagnostic or other use.

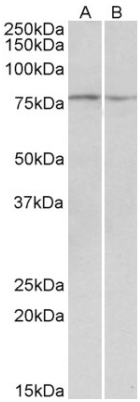
Bioinformation

Database links	GeneID: 13138 Mouse GeneID: 1605 Human Swiss-port # Q14118 Human Swiss-port # Q62165 Mouse
Background	Dystroglycan is a laminin binding component of the dystrophin-glycoprotein complex which provides a linkage between the subsarcolemmal cytoskeleton and the extracellular matrix. Dystroglycan 1 is a candidate gene for the site of the mutation in autosomal recessive muscular dystrophies. The dramatic reduction of dystroglycan 1 in Duchenne muscular dystrophy leads to a loss of linkage between the sarcolemma and extracellular matrix, rendering muscle fibers more susceptible to necrosis. Dystroglycan also functions as dual receptor for agrin and laminin-2 in the Schwann cell membrane. The muscle and nonmuscle isoforms of dystroglycan differ by carbohydrate moieties but not protein sequence. Alternative splicing results in multiple transcript variants all encoding the same protein.[provided by RefSeq, Apr 2010]
Research Area	Neuroscience antibody; Signaling Transduction antibody
Calculated Mw	97 kDa
PTM	O- and N-glycosylated. Alpha-dystroglycan is heavily O-glycosylated comprising of up to two thirds of its mass and the carbohydrate composition differs depending on tissue type. Mucin-type O-glycosylation is important for ligand binding activity. O-mannosylation of alpha-DAG1 is found in high abundance in both brain and muscle where the most abundant glycan is Sia-alpha-2-3-Gal-beta-1-4-Glc-NAc-beta-1-2-Man. In muscle, glycosylation on Thr-317, Thr-319 and Thr-379 by a phosphorylated O-mannosyl glycan with the structure 2-(N-acetylamido)-2-deoxygalactosyl-beta-1,3-2-(N-acetylamido)-2-deoxyglucosyl-beta-1,4-6-phosphomannose is mediated by like-acetylglucosaminyltransferase (LARGE1) protein and is required for laminin binding (PubMed:20044576, PubMed:21987822, PubMed:24256719). O-mannosylation is also required for binding lymphocytic choriomeningitis virus, Old World Lassa fever virus, and clade C New World arenaviruses. The O-glycosyl hexose on Thr-367, Thr-369, Thr-372, Thr-381 and Thr-388 is probably mannose. O-glycosylated in the N-terminal region with a core 1 or possibly core 8 glycan. The beta subunit is N-glycosylated. Autolytic cleavage produces the alpha and beta subunits. In cutaneous cells, as well as in certain pathological conditions, shedding of beta-dystroglcan can occur releasing a peptide of about 30 kDa. SRC-mediated phosphorylation of the PPXY motif of the beta subunit recruits SH2 domain-containing proteins, but inhibits binding to WWW domain-containing proteins, DMD and UTRN. This phosphorylation also inhibits nuclear entry.

Images

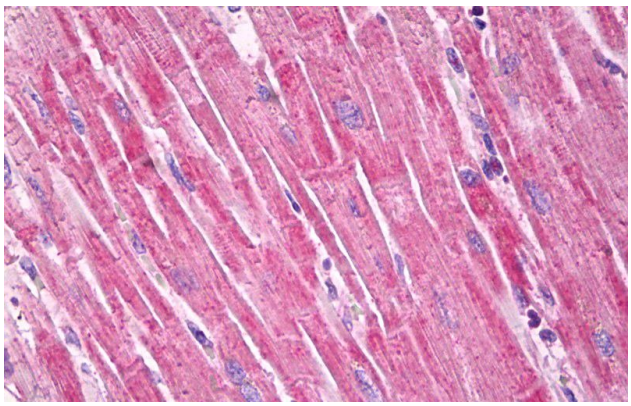
ARG65250 anti-DAG1 antibody WB image

Western Blot: Human Skeletal Muscle lysate (35µg protein in RIPA buffer) stained with ARG65250 anti-DAG1 antibody (0.2µg/ml)



ARG65250 anti-DAG1 antibody WB image

Western Blot: Mouse and Rat Skeletal Muscle lysate (35µg protein in RIPA buffer) stained with ARG65250 anti-DAG1 antibody (0.1µg/ml)



ARG65250 anti-DAG1 antibody IHC-P image

Immunohistochemistry: Paraffin-embedded Human heart tissue. Antigen Retrieval: Steam tissue section in Citrate buffer (pH 6.0). The tissue section was stained with ARG65250 anti-DAG1 antibody at 5 µg/ml dilution followed by AP-staining.