

ARG81613 Human DAG1 ELISA Kit

Package: 96 wells
Store at: 4°C

Component

Cat. No.	Component Name	Package	Temp
ARG81613-001	Antibody-coated microplate	8 X 12 strips	4°C. Unused strips should be sealed tightly in the air-tight pouch.
ARG81613-002	Standard	2 X 10 ng/vial	4°C
ARG81613-003	Standard/Sample diluent	30 ml (Ready to use)	4°C
ARG81613-004	Antibody conjugate concentrate (100X)	1 vial (100 µl)	4°C
ARG81613-005	Antibody diluent buffer	12 ml (Ready to use)	4°C
ARG81613-006	HRP-Streptavidin concentrate (100X)	1 vial (100 µl)	4°C
ARG81613-007	HRP-Streptavidin diluent buffer	12 ml (Ready to use)	4°C
ARG81613-008	25X Wash buffer	20 ml	4°C
ARG81613-009	TMB substrate	10 ml (Ready to use)	4°C (Protect from light)
ARG81613-010	STOP solution	10 ml (Ready to use)	4°C
ARG81613-011	Plate sealer	4 strips	Room temperature

Summary

Product Description	ARG81613 Human DAG1 ELISA Kit is an Enzyme Immunoassay kit for the quantification of Human DAG1 in serum, plasma (heparin, EDTA), saliva, urine and cell culture supernatants.
Tested Reactivity	Hu
Tested Application	ELISA
Specificity	There is no detectable cross-reactivity with other relevant proteins.
Target Name	DAG1
Conjugation	HRP
Conjugation Note	Substrate: TMB and read at 450 nm.
Sensitivity	78 pg/ml
Sample Type	Serum, plasma (heparin, EDTA), saliva, urine and cell culture supernatants.
Standard Range	156 - 10000 pg/ml
Sample Volume	100 µl

Precision	Intra-Assay CV: 5.6% Inter-Assay CV: 6.9%
Alternate Names	Dystrophin-associated glycoprotein 1; Alpha-DG; DAG; 156DAG; AGRNR; Dystroglycan; A3a; MDDGC9; MDDGC7; Beta-DG

Application Instructions

Assay Time	~ 5 hours
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Properties

Form	96 well
Storage instruction	Store the kit at 2-8°C. Keep microplate wells sealed in a dry bag with desiccants. Do not expose test reagents to heat, sun or strong light during storage and usage. Please refer to the product user manual for detail temperatures of the components.
Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

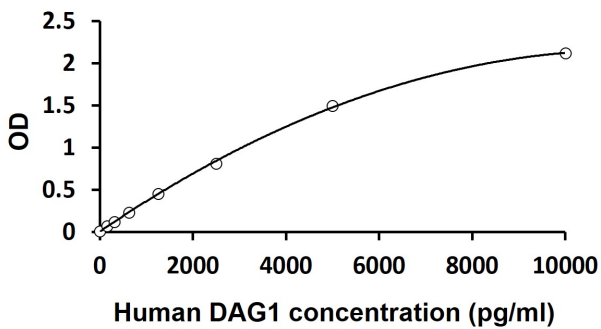
Gene Symbol	DAG1
Gene Full Name	dystroglycan 1 (dystrophin-associated glycoprotein 1)
Background	Dystroglycan is a laminin binding component of the dystrophin-glycoprotein complex which provides a linkage between the subsarcolemmal cytoskeleton and the extracellular matrix. Dystroglycan 1 is a candidate 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]
Function	<p>The dystroglycan complex is involved in a number of processes including laminin and basement membrane assembly, sarcolemmal stability, cell survival, peripheral nerve myelination, nodal structure, cell migration, and epithelial polarization.</p> <p>Alpha-dystroglycan is an extracellular peripheral glycoprotein that acts as a receptor for both extracellular matrix proteins containing laminin-G domains, and for certain adenoviruses. Receptor for laminin-2 (LAMA2) and agrin in peripheral nerve Schwann cells. Also acts as a receptor for M.leprae in peripheral nerve Schwann cells but only in the presence of the G-domain of LAMA2, and for lymphocytic choriomeningitis virus, Old World Lassa fever virus, and clade C New World arenaviruses.</p> <p>Beta-dystroglycan is a transmembrane protein that plays important roles in connecting the extracellular matrix to the cytoskeleton. Acts as a cell adhesion receptor in both muscle and non-muscle tissues. Receptor for both DMD and UTRN and, through these interactions, scaffolds axin to the cytoskeleton. Also functions in cell adhesion-mediated signaling and implicated in cell polarity. [UniProt]</p>
Highlight	<p>Related products: DAG1 antibodies; DAG1 ELISA Kits; New ELISA data calculation tool: Simplify the ELISA analysis by GainData</p>
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-dystroglycan 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 WW domain-containing proteins, DMD and UTRN. This phosphorylation also inhibits nuclear entry. [UniProt]

Images



ARG81613 Human DAG1 ELISA Kit standard curve image

ARG81613 Human DAG1 ELISA Kit results of a typical standard run with optical density reading at 450 nm.