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ITGA7 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP21359a

Product Information

Application	WB, FC, IHC-P, IF, E
Primary Accession	Q13683
Reactivity	Human, Rat, Mouse
Host	Rabbit
Clonality	polyclonal
Isotype	Rabbit IgG
Clone Names	RB52834
Calculated MW	128948

Additional Information

Gene ID	3679
Other Names	Integrin alpha-7, Integrin alpha-7 heavy chain, Integrin alpha-7 light chain, Integrin alpha-7 70 kDa form, ITGA7
Target/Specificity	This ITGA7 antibody is generated from a rabbit immunized with a KLH conjugated synthetic peptide between 247-279 amino acids from the N-terminal region of human ITGA7.
Dilution	WB~~1:4000 FC~~1:25 IHC-P~~1:100~500 IF~~1:25 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	ITGA7 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ITGA7
Function	Integrin alpha-7/beta-1 is the primary laminin receptor on skeletal myoblasts and adult myofibers. During myogenic differentiation, it may induce changes in the shape and mobility of myoblasts, and facilitate their localization at laminin-rich sites of secondary fiber formation. It is involved in

	the maintenance of the myofibers cytoarchitecture as well as for their anchorage, viability and functional integrity. Isoform Alpha-7X2B and isoform Alpha-7X1B promote myoblast migration on laminin 1 and laminin 2/4, but isoform Alpha-7X1B is less active on laminin 1 (In vitro). Acts as a Schwann cell receptor for laminin-2. Acts as a receptor of COMP and mediates its effect on vascular smooth muscle cells (VSMCs) maturation (By similarity). Required to promote contractile phenotype acquisition in differentiated airway smooth muscle (ASM) cells.
Cellular Location	Membrane; Single-pass type I membrane protein.
Tissue Location	Isoforms containing segment A are predominantly expressed in skeletal muscle. Isoforms containing segment B are abundantly expressed in skeletal muscle, moderately in cardiac muscle, small intestine, colon, ovary and prostate and weakly in lung and testes. Isoforms containing segment X2D are expressed at low levels in fetal and adult skeletal muscle and in cardiac muscle, but are not detected in myoblasts and myotubes. In muscle fibers isoforms containing segment A and B are expressed at myotendinous and neuromuscular junctions; isoforms containing segment C are expressed at neuromuscular junctions and at extrasynaptic sites. Isoforms containing segments X1 or X2 or, at low levels, X1X2 are expressed in fetal and adult skeletal muscle (myoblasts and myotubes) and cardiac muscle

Background

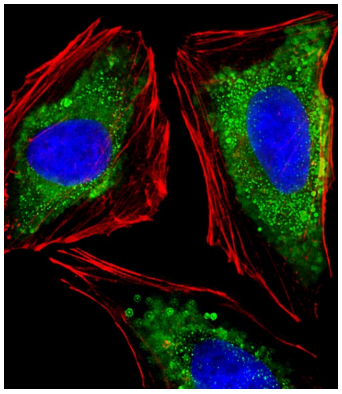
Integrin alpha-7/beta-1 is the primary laminin receptor on skeletal myoblasts and adult myofibers. During myogenic differentiation, it may induce changes in the shape and mobility of myoblasts, and facilitate their localization at laminin-rich sites of secondary fiber formation. It is involved in the maintenance of the myofibers cytoarchitecture as well as for their anchorage, viability and functional integrity. Isoform Alpha-7X2B and isoform Alpha-7X1B promote myoblast migration on laminin 1 and laminin 2/4, but isoform Alpha-7X1B is less active on laminin 1 (In vitro). Acts as Schwann cell receptor for laminin-2. Acts as a receptor of COMP and mediates its effect on vascular smooth muscle cells (VSMCs) maturation (By similarity). Required to promote contractile phenotype acquisition in differentiated airway smooth muscle (ASM) cells.

References

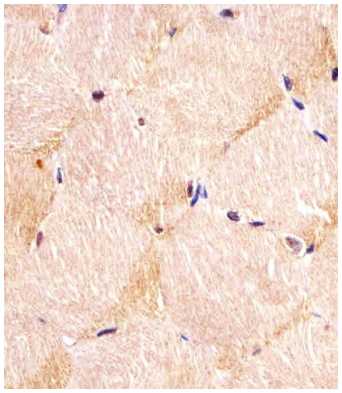
Leung E.,et al.Biochem. Biophys. Res. Commun. 243:317-325(1998).
Hayashi Y.K.,et al.Nat. Genet. 19:94-97(1998).
Vizirianakis I.S.,et al.Submitted (JUN-1998) to the EMBL/GenBank/DDBJ databases.
Vignier N.,et al.Biochem. Biophys. Res. Commun. 260:357-364(1999).
Clark H.F.,et al.Genome Res. 13:2265-2270(2003).

Images

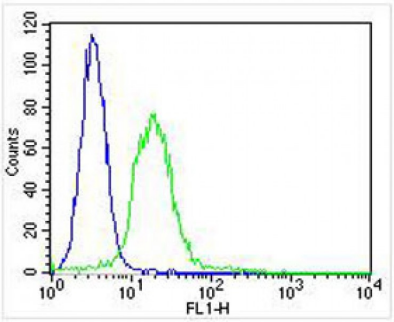
Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilized HeLa (human cervical epithelial adenocarcinoma cell line) cells labeling ITGA7 with AP21359a at 1/25 dilution, followed by Dylight® 488-conjugated goat anti-rabbit IgG (NK179883) secondary antibody at 1/200 dilution (green). Immunofluorescence image showing vesicles,cytoplasm and weakly nucleus staining on HeLa cell line. Cytoplasmic actin is detected with Dylight® 554 Phalloidin (PD18466410) at 1/100 dilution (red).The



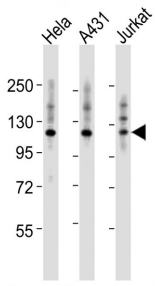
nuclear counter stain is DAPI (blue).



AP21359a staining ITGA7 in human skeletal muscle sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with formaldehyde and blocked with 3% BSA for 0. 5 hour at room temperature; antigen retrieval was by heat mediation with a citrate buffer (pH6). Samples were incubated with primary antibody (1/25) for 1 hours at 37°C. A undiluted biotinylated goat polyvalent antibody was used as the secondary antibody.



Overlay histogram showing U-2 OS cells stained with AP21359a (green line). The cells were fixed with 2% paraformaldehyde (10 min) and then permeabilized with 90% methanol for 10 min. The cells were then icubated in 2% bovine serum albumin to block non-specific protein-protein interactions followed by the antibody (AP21359a, 1:25 dilution) for 60 min at 37ºC. The secondary antibody used was Goat-Anti-Rabbit IgG, DyLight® 488 Conjugated Highly Cross-Adsorbed(NA168821) at 1/400 dilution for 40 min at 37ºC. Isotype control antibody (blue line) was rabbit IgG (1µg/1x10^6 cells) used under the same conditions. Acquisition of >10, 000 events was performed.



All lanes : Anti-ITGA7 Antibody (N-term) at 1:2000 dilution Lane 1: Hela whole cell lysates Lane 2: A431 whole cell lysates Lane 3: Jurkat whole cell lysates Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution Predicted band size : 129 kDa Blocking/Dilution buffer: 5% NFDM/TBST.