

## MONOCLONAL ANTIBODY

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Catalog No. PRPG-ITG-M01

# Anti- Integrin $\alpha$ 6 (537D5)

### BACKGROUND

Integrins are conserved, cation-dependent transmembrane receptors essential for cell survival and growth, which are composed of an  $\alpha$  and a  $\beta$  subunit that are differentially involved in ligand binding and connection with the cytoskeleton. They are specialized in linking cells to the extracellular matrix (ECM) and to cell surface-bound adhesion molecules, such as to allow cells to properly organize within tissues in relation to the underlying and/or surrounding matrices. Thus, in epithelia and vasculature integrins are central elements in the structuring the intricate junctional complexes with the underlying basement membranes, whereas in connective tissues they allow the cells to form stable attachments (i.e. focal adhesions) with their surrounding interstitial matrices and rapidly convert (bidirectionally) from stationary to motile phenotypes. Integrins not engaged in ligand binding are generally dispersed on the surface of cells, but tend to form microclusters. Upon ligand engagement they reorganize to form larger clusters that permit the stabilization of the cell-ECM or cell-cell interactions.

Simultaneously, through phosphorylation of the cytoplasmic portion of the  $\beta$  subunit, they associated with key cytoskeletal adapter proteins, such as vinculin, talin, paxillin, tensin and FAK and activate complex signal transduction pathways converging with those elicited by growth factor receptors and other receptors for soluble and membrane-bound signal molecules. This results in the activation of the cell cycle, cell differentiation programs and/or the acquisition of motile properties. Conversely, loss of integrin binding to the matrix causes a defined programmed cell death known as anoikis. There are more than 15  $\alpha$  subunits and 8  $\beta$  subunits, which pair with each other in different combinations to generate a repertoire of over 20 different integrin receptors. These may other be selective for one or two ligands or being promiscuous, binding multiple ligands. Similarly, the same ECM component may be recognized by one individual integrin receptor or multiple receptors. Integrin expression is frequently altered in pathological conditions and mutations in the INTG genes are associated with inheritable diseases. In cancer, integrins are fundamental in conferring a more aggressive behaviour to malignant cells and are therefore considered attractive therapeutic targets. However, thus far only one anti-integrin drug is registered for clinical application and its use is for the treatment of neurological rather rather neoplastic diseases. \*

<b>Product type</b>	Primary antibody
<b>Immunogen</b>	Recombinant integrin $\alpha$ 6 subunit
<b>Raised in</b>	Mouse
<b>Myeloma</b>	-
<b>Clone number</b>	537D5
<b>Isotype</b>	IgM
<b>Host</b>	-
<b>Source</b>	Ascites Fluid
<b>Purification</b>	-
<b>Form</b>	Liquid
<b>Storage buffer</b>	Supernatant supplemented with 0.05% NaN <sub>3</sub>
<b>Concentration</b>	ND
<b>Volume</b>	20 $\mu$ L
<b>Label</b>	Unlabeled
<b>Specificity</b>	$\alpha$ 6 integrin subunit
<b>Cross reactivity</b>	Human Other species have not been tested.
<b>Storage</b>	Store at 4°C for short-term storage and -20°C for prolonged storage Aliquot to avoid cycles of freeze / thaw.
<b>Other</b>	

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**Application notes**

Recommended dilutions

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- Western blotting, 1/250 to 1/500
- Immunohistochemistry, 1/150 to 1/200

**Staining Pattern**

On frozen human tissues, the antibody detects the  $\alpha 6$  integrin subunit in all basement membrane locations and areas in which this integrin subunit is known to be expressed. The antibody also detects the integrin chain on normal and cancer cell lines in flow cytometry and indirect immunocytochemistry.

Optimal dilutions/concentrations should be determined by the end user.

**References**

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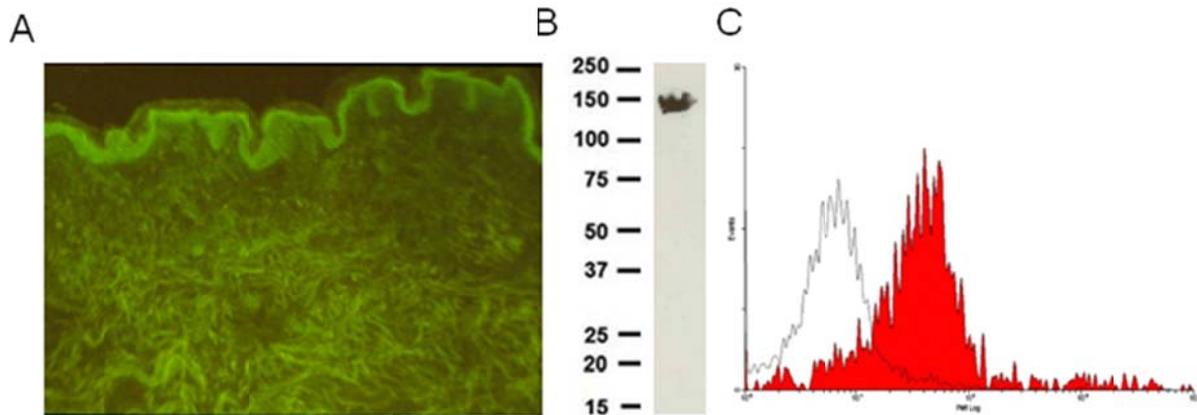
**ANTIBODY CHARACTERIZATION**

Figure. A) Immunolabelling of human adult skin; B) immunoblotting of sarcoma HT1080 whole-cell extracts; C) flow cytometry on A375 melanoma cells.

**RELATED PRODUCTS:**

Product Name	Clone	Maker	Cat#
Anti CS [Chondroitin Sulfate] Monoclonal Antibody	2B6	CAC	PRPG-BC-M02
Anti CS [Chondroitin Sulfate] Monoclonal Antibody	1B5	CAC	PRPG-BC-M03
Anti CS [Chondroitin Sulfate] Monoclonal Antibody	3B3	CAC	PRPG-BC-M04
Anti Chondroitin Sulfate A Monoclonal Antibody	2H6	CAC	NU-07-001
Anti Aggrecan Monoclonal Antibody	6F4	CAC	PRPG-AG-M01
Anti Aggrecan Monoclonal Antibody	5D3	CAC	PRPG-AG-M02
Anti Aggrecan Monoclonal Antibody	5G2	CAC	PRPG-AG-M03
Anti Aggrecan Monoclonal Antibody	7B7	CAC	PRPG-AG-M04
Anti Versican/CSPG2 Monoclonal Antibody	5C12	CAC	PRPG-VS-M01
Anti Versican/CSPG2 Monoclonal Antibody	4C5	CAC	PRPG-VS-M02
Anti Versican/CSPG2 Monoclonal Antibody	2B3	CAC	PRPG-VS-M03
Anti Versican/CSPG2 Monoclonal Antibody	6B10	CAC	PRPG-VS-M04
Anti Neurocan Monoclonal Antibody	1G2	CAC	NU-07-002
Anti Neuroglycan C Monoclonal Antibody	C1	CAC	NU-07-003
Anti Neurocan peptides Polyclonal Antibody	-	CAC	NU-07-005
Anti N-syndecan Polyclonal Antibody	-	CAC	NU-07-004
Anti BPAG1(BP230) Monoclonal Antibody	279	CAC	NU-01-BP1
Anti NG2 / CSPG4 Monoclonal Antibody	2161D7	CAC	PRPG-NG-M01
Anti COMP Monoclonal Antibody	484D1	CAC	PRPG-CP-M01
Anti COMP Monoclonal Antibody	490D11	CAC	PRPG-CP-M02
Anti COMP Fragment Monoclonal Antibody	2117B2	CAC	PRPG-CPF-M01
Anti Keratan sulfate Monoclonal Antibody	373E1	CAC	PRPG-KS-M01
Anti KS [Keratan Sulfate] Monoclonal Antibody	5DA	CAC	PRPG-BC-M01
Anti Decorin Monoclonal Antibody	889C7	CAC	PRPG-DC-M01
Anti Fibromodulin Monoclonal Antibody	636B12	CAC	PRPG-FBM-M01
Anti Biglycan Monoclonal Antibody	905A7	CAC	PRPG-BG-M01
Anti XTP1 Monoclonal Antibody	2191H1	CAC	PRPG-XTP-M01
Anti SDP35 Monoclonal Antibody	2200D12	CAC	PRPG-SDP-M01
Anti Laminin $\alpha$ 4 Monoclonal Antibody	652C4	CAC	PRPG-LA4-M01
Anti Laminin ALPHA3 Monoclonal Antibody	BM515	CAC	NU-01-LA3
Anti Laminin-nidogen complexe Monoclonal Antibody	331G3	CAC	PRPG-NDG-M01
Anti Collagen 7 Monoclonal Antibody	BML39	CAC	NU-01-CO7
Anti Collagen 12 Monoclonal Antibody	378D5	CAC	PRPG-CO12-M01
Anti COMP Fragment $\alpha$ 6	2127F5	CAC	PRPG-CPF-M02

**\* < BACKGROUND : Integrin  $\alpha$ 6 >****Integrin  $\alpha$ 6**

\* The  $\alpha$ 6 integrin subunit pairs with two distinct  $\beta$  subunit,  $\beta$ 1 and  $\beta$ 4, and with the latter one it forms a unique integrin receptor that is essential for the assembly and maintenance of hemidesmosomes. There are a total 8 different alternative spliced  $\alpha$ 6 isoforms known which show a diverse tissue distribution, i.e. isoforms containing segment X1 are ubiquitously expressed, whereas isoforms containing segment X1X2 are expressed in heart, kidney, placenta, colon, duodenum, myoblasts and myotubes. Similarly, in some tissues, isoforms containing cytoplasmic segment A and isoforms containing segment B are detected while in others, only isoforms containing one cytoplasmic segment are found.

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