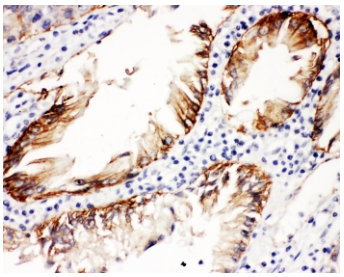
ITGB4 Antibody / CD104 Polyclonal Antibody (R31440)

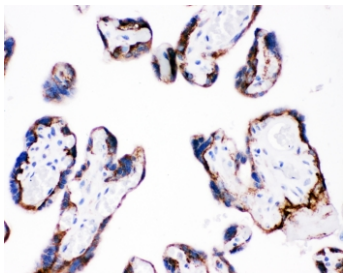
Catalog No.	Formulation	Size
R31440	0.5mg/ml if reconstituted with 0.2ml sterile DI water	100 ug

Bulk quote request

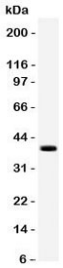
Availability	1-3 business days
Species Reactivity	Human
Format	Antigen affinity purified
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Antigen affinity
Buffer	Lyophilized from 1X PBS with 2.5% BSA and 0.025% sodium azide
UniProt	P16144
Applications	Western blot: 0.5-1ug/ml Immunohistochemistry (FFPE): 0.5-1ug/ml Immunofluorescence (FFPE): 1-2ug/ml Flow cytometry: 1-3ug/10^6 cells
Limitations	This ITGB4 Antibody / CD104 Polyclonal Antibody is available for research use only.



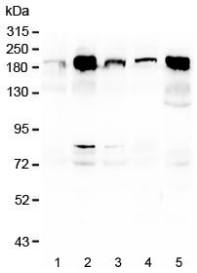
ITGB4 Antibody in Human Intestinal Cancer IHC. Immunohistochemistry staining of FFPE human intestinal cancer tissue with ITGB4 Antibody at 1 ug/ml. HIER was performed by boiling tissue sections in pH 6 10mM citrate buffer for 10-20 min followed by cooling before testing. Strong brown staining is concentrated along the epithelial glandular structures, with particularly prominent membranous and basal-associated signal surrounding the glandular spaces. The image demonstrates the epithelial localization expected for integrin beta 4 and tissue detection using the CD104 Polyclonal Antibody.



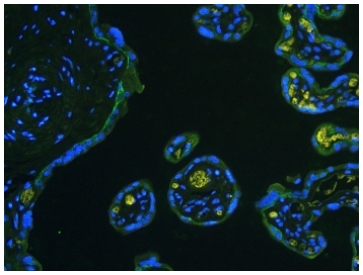
ITGB4 Antibody in Human Placenta IHC. Immunohistochemistry staining of FFPE human placenta tissue with ITGB4 Antibody at 1 ug/ml. HIER was performed by boiling tissue sections in pH 6 10mM citrate buffer for 10-20 min followed by cooling before testing. Distinct brown staining outlines portions of the chorionic villi, with signal concentrated predominantly along the peripheral trophoblastic cell layers rather than throughout the villous cores. This localized pattern demonstrates detection of integrin beta 4 with the CD104 Polyclonal Antibody.



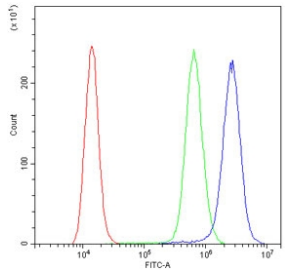
ITGB4 Antibody Western Blot of Recombinant Human ITGB4. Western blot testing of recombinant human ITGB4 protein (0.5 ng) with ITGB4 Antibody. The blot shows a single strong band migrating at approximately 40 kDa. This is a recombinant ITGB4 fragment rather than full-length approximately 200 kDa integrin beta 4, so the lower molecular weight is expected for the recombinant protein preparation. The clean single-band result demonstrates recognition of the target protein by the CD104 Polyclonal Antibody.



ITGB4 Antibody Western Blot of A549, PC-3, T-47D, HeLa and Caco-2 Cells. Western blot testing of human A549 (lane 1), PC-3 (lane 2), T-47D (lane 3), HeLa (lane 4), and Caco-2 (lane 5) cell lysates with ITGB4 Antibody at 0.5 ug/ml. The predicted molecular weight is approximately 200 kDa. A prominent band near 180-200 kDa is detected in lanes 1, 2, 3, and 5, with much weaker signal in lane 4. Additional lower-molecular-weight bands are visible, particularly in lane 1. The major high-MW signal is consistent with full-length integrin beta 4 detection by the CD104 Polyclonal Antibody.



ITGB4 Antibody in Human Placenta IF. Immunofluorescence staining of FFPE human placenta tissue with ITGB4 Antibody at 1 ug/ml. HIER was performed by boiling tissue sections in pH 6 10mM citrate buffer for 10-20 min followed by cooling before testing. Green ITGB4 signal prominently outlines the peripheral cell layers of multiple chorionic villi, while nuclei are counterstained blue. The sharply localized peripheral staining corresponds well with the distribution seen independently by IHC and demonstrates detection using the CD104 Polyclonal Antibody.



ITGB4 Antibody in Human A431 Epidermoid Carcinoma Cells FACS. Flow cytometry testing of human A431 epidermoid carcinoma cells with ITGB4 Antibody at 1 ug/10^6 cells following blocking with goat sera. Cells alone are shown in red, isotype control in green, and ITGB4 antibody staining in blue. The blue antibody-treated population shows a substantial rightward fluorescence shift relative to the green isotype control, demonstrating strong detection of cell-associated integrin beta 4 by the CD104 Polyclonal Antibody.

Description

ITGB4 Antibody recognizes integrin beta 4, a transmembrane adhesion receptor subunit encoded by the ITGB4 gene and also designated CD104. Integrin beta 4 differs structurally and functionally from most other integrin beta chains and associates predominantly with integrin alpha 6. Together, these subunits form alpha 6 beta 4, a laminin-binding receptor with important functions in epithelial attachment, hemidesmosome organization, and cell signaling.

ITGB4 is a type I transmembrane glycoprotein distinguished by an exceptionally large cytoplasmic domain of more than 1,000 amino acids. This intracellular region contains four fibronectin type III domains and multiple sites for interactions with cytoskeletal and signaling proteins. Its unusual structure enables alpha 6 beta 4 to function as both a mechanically

robust adhesion receptor and a regulator of intracellular signaling.

Alpha 6 beta 4 is an important component of hemidesmosomes, specialized structures that anchor epithelial cells to the basement membrane. Extracellularly, the receptor binds laminins, particularly laminin-332. Intracellularly, the ITGB4 cytoplasmic domain interacts with proteins including plectin and BP230, helping connect the adhesion complex to keratin intermediate filaments. These interactions provide mechanical stability to epithelial tissues exposed to repeated physical stress.

Integrin beta 4 also participates in signaling processes that influence cell migration, survival, proliferation, and tissue remodeling. Post-translational modification of the ITGB4 cytoplasmic domain can alter its interactions with hemidesmosomal proteins and contribute to receptor redistribution during cellular migration. Changes in alpha 6 beta 4 expression and signaling have therefore been investigated in epithelial tumor progression, invasion, and altered cell-matrix interactions.

Pathogenic variants in ITGB4 can compromise epithelial adhesion and are associated with forms of junctional epidermolysis bullosa, including disease accompanied by pyloric atresia. The resulting tissue fragility illustrates the essential role of alpha 6 beta 4 in maintaining stable attachment between epithelial cells and basement membranes.

An ITGB4 Antibody can be used to investigate integrin beta 4 expression and alpha 6 beta 4 biology, while a CD104 Polyclonal Antibody provides an alternative designation for studies of hemidesmosomes, epithelial adhesion, and integrin-mediated signaling.

For a broadly validated antibody targeting this protein, see our CD104 Antibody / ITGB4 Polyclonal Antibody page.

Application Notes

Titration of the ITGB4 Antibody / CD104 Polyclonal Antibody may be required due to differences in protocols and secondary/substrate sensitivity.

Immunogen

Human partial recombinant protein (AA 28-266) was used as the immunogen for this ITGB4 antibody.

Storage

After reconstitution, the ITGB4 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.

Alternate Names

CD104 antibody, Integrin Beta 4 antibody, Beta 4 Integrin antibody, Integrin beta-4 subunit antibody, GP150 antibody, CD104 antigen antibody

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