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Human Integrin beta 1 Ready-To-Use IHC Kit

Cat.No: IHC0241H
Applications: **IHC-P**
Reactivity: Human
Size: 50T
Assay type: Immunohistochemistry
Sample type: FFPE tissue
General Information:

Number	Component	Size	Concentration	Storage
1	PBS Buffer (powder)	2 L×2	20x	RT
2	Antigen Retrieval Buffer	20 ml	100x	2-8°C
3	Endogenous Peroxidase Blocking Buffer	3 ml	RTU	2-8°C, protect from light
4	Blocking Buffer	3 ml	RTU	2-8°C
5	Primary Antibody (Human Integrin beta 1 Rabbit pAb)	6 ml	RTU	2-8°C
6	Secondary Antibody (Goat Anti-Rabbit IgG H&L / HRP)	6 ml	RTU	2-8°C
7	Chromogen Component A	0.3 ml	RTU	-20°C,protect from light
8	Chromogen Component B	0.3 ml	RTU	-20°C
9	Counter Staining Reagent	5 ml	RTU	RT
10	Mounting Media	5 ml	RTU	RT
11	Control slide (human abdominal skin)	1 slide	RTU	RT
12	Datasheet	1 copy		

Storage and Stability: Please store components at the temperatures indicated on the individual tube labels. The kit is stable for 6 months from the date of receipt.

Immunohistochemistry Protocol:

1. **Deparaffinization And Rehydration**

Immerse slides in fresh xylene for 15 minutes and then repeat two more times using separate containers. Immerse slides sequentially in 100%, 95%, 90%, 80%, and 70% ethanol solutions for 5 minutes each. Rinse slides 3 times with distilled water for 5 minutes each.

2. **Antigen Retrieval**

Add 100× **Antigen Retrieval Buffer** into distilled water to prepare a 1×solution. Boil slides in 1×solution at 95°C-100°C for 15 minutes. Move the slides to 1×solution at room temperature (RT) and allow them to stand for 20 minutes. Rinse 3 times with **PBS Buffer** (dissolve the powder in 2L distilled water) for 5 minutes each.

3. **Block Endogenous Peroxidase**

Drain the liquid off the slides and then use a hydrophobic IHC pen to draw circles on the slides around tissue sections. Add 2-4 drops of **Endogenous Peroxidase Blocking Buffer** directly on slides, covering the whole tissue and block slides for 15 minutes at RT. Rinse 3 times with **PBS Buffer** for 5 minutes each.

4. **Serum Blocking**

Block with 2-4 drops of **Blocking Buffer** for 20 minutes at RT.

5. **Primary Antibody Incubation**

Drain blocking buffer from slides. Incubate slides with 2-4 drops of **Human Integrin beta 1 Rabbit pAb** overnight at 4°C or 1-2 hours at RT. Rinse 3 times with **PBS Buffer** for 5 minutes each.

6. **Secondary Antibody Incubation**

Incubate slides with 2-4 drops of **Goat Anti-Rabbit IgG H&L / HRP** for 1-2 hours at RT. Rinse slides 3 times with **PBS Buffer** for 5 minutes each.

7. **Signal Development**

Remove residual liquid around the tissue section. Add 50ul fresh **DAB Buffer** (**Chromogen Component A : Chromogen Component B : PBS Buffer=1:1:18**) to cover the tissue. Monitor the reaction under the microscope until a brown color is visible (approximate 3-5 minutes at RT). Stop reaction immediately by rinsing with distilled water. Rinse slides 3 times with distilled water for 5 minutes each.

8. **Counterstain**

Counterstain with an appropriate amount of **Counter Staining Reagent** for 3-5 minutes at RT. Rinse slides with distilled water for 5 minutes. Use 2-4 drops of **Differentiation reagent** to cover the tissue for 30 seconds. Rinse slides twice with distilled water for 5 minutes each.

9. **Dehydration Sheet**

Immerse slides sequentially in 70%, 80%, 90%, 95%, and 100% ethanol for 5 minutes each at RT. Immerse slides in 2 changes of fresh xylene, 15 minutes each. Drop some **Mounting Media** on the tissue. Mount coverslips.

Notes:

1. The positive control slide provided in the kit allows you to be sure that the experimental set-up is working properly.
2. Do not allow slides to dry at any time during this procedure.

3. Please don't replace the matching reagents in this product with other manufacturers' products.

4. As DAB is a carcinogen, please take necessary precautions.

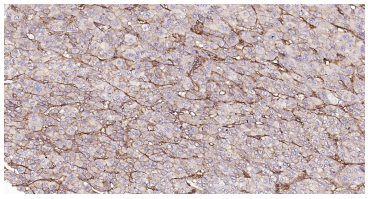
5. PBS (reagent 1) can be stored for one week at 4°C after preparation; The antigen retrieval buffer (1×reagent 2) and the chromogenic agent (the mixture of reagents 7 and 8) should be prepared right before each assay.

Please cite this product as " IHC0241H, Bioss Antibodies". Citation example: " Human Tissue sections using ITGB1 IHC Kit (IHC0241H, Bioss Antibodies) were stained for ITGB1 according to the manufacturer's instructions."

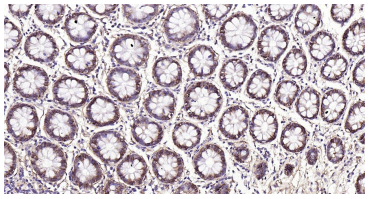
Introduction:

ITGB1 (Integrin Subunit Beta 1, beta1 integrin subunit, GPIIa, CD29) is a 110 kDa cell surface glycoprotein that is widely expressed by a variety of cells including all leucocytes. ITGB1 forms non-covalently linked heterodimers with at least 6 different alpha chains (alpha1-alpha6, CDa-f) determining the binding properties of beta1 (VLA) integrins. ITGB1 is a cell adhesion molecule appearing on platelets, as the common Beta subunit of the very late activation antigen (VLA), and as a component of various protein complexes binding to extracellular matrix proteins. Decreased expression of ITGB1 correlates with acquiring multidrug resistance of tumor cells in the presence of anti-tumor drug. ITGB1 is up-regulated in leukocytes during emigration and extravascular migration and appear to be critically involved in regulating the immune cell trafficking from blood to tissue. Further, ITGB1 also regulates tissue damage and disease symptoms related to inflammatory bowel disease. Through an ITGB1-dependent mechanism, fibronectin and type I collagen enhance cytokine secretion of human airway smooth muscle in response to IL-1beta. More than 8 beta subunits with numerous splice variant isoforms have been identified in mammals. There are two major forms of integrin beta1: beta1A and beta1D, which differ in 13 amino acids. The distribution pattern in adult tissues for integrin beta types are mutually exclusive. Beta1A is present in all tissues, except cardiac and skeletal muscle which express the beta1D variant.

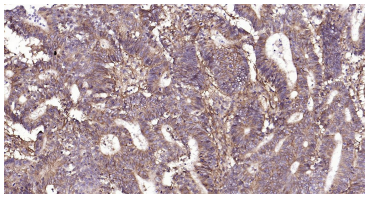
Validation Data



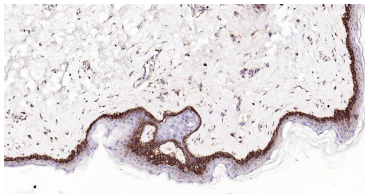
Immunohistochemical analysis of paraffin embedded human hepatocellular carcinoma tissue slide using IHC0241H (Human Integrin beta 1 IHC Kit).



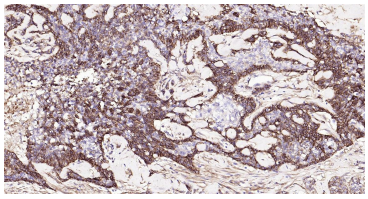
Immunohistochemical analysis of paraffin embedded human colon tissue slide using IHC0241H (Human Integrin beta 1 IHC Kit).



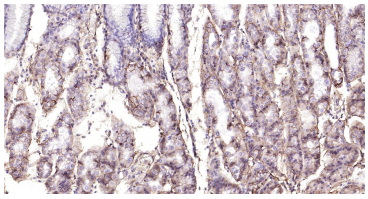
Immunohistochemical analysis of paraffin embedded human colon cancer tissue slide using IHC0241H (Human Integrin beta 1 IHC Kit).



Immunohistochemical analysis of paraffin embedded human skin tissue slide using IHC0241H (Human Integrin beta 1 IHC Kit).



Immunohistochemical analysis of paraffin embedded human breast cancer tissue slide using IHC0241H (Human Integrin beta 1 IHC Kit).



Immunohistochemical analysis of paraffin embedded human stomach tissue slide using IHC0241H (Human Integrin beta 1 IHC Kit).