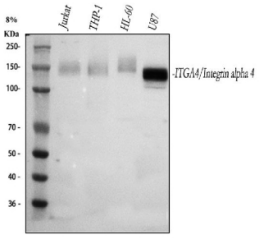
ITGA4 Antibody / Integrin Alpha 4 (FY12794)

Catalog No.	Formulation	Size
FY12794	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

Availability	1-2 days
Species Reactivity	Human
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	P13612
Applications	Western Blot : 0.25-0.5ug/ml ELISA : 0.1-0.5ug/ml
Limitations	This ITGA4 antibody is available for research use only.



Western blot analysis of Integrin Alpha 4/ITGA4 using anti-ITGA4 antibody. Lane 1: human Jurkat whole cell lysates, Lane 2: human THP-1 whole cell lysates, Lane 3: human HL-60 whole cell lysates, Lane 4: human U87 whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-ITGA4 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. A broad band is detected at ~150 kDa in most samples, consistent with the mature glycosylated alpha 4 subunit; U87 shows a prominent ~130-140 kDa band with a minor lower species, consistent with cell-type-dependent glycosylation and limited processing relative to the ~115 kDa core mass.

Description

Integrin alpha 4 antibody detects Integrin alpha-4 (encoded by ITGA4), a cell surface adhesion receptor that mediates interactions between cells and the extracellular matrix, primarily through binding to vascular cell adhesion molecule 1

(VCAM1) and fibronectin. Encoded by the ITGA4 gene on chromosome 2q31.3, this protein pairs with the beta-1 (ITGB1) or beta-7 (ITGB7) subunit to form functional integrin heterodimers such as alpha4beta1 (VLA-4) and alpha4beta7. These complexes regulate leukocyte adhesion, migration, and immune cell trafficking across vascular and epithelial barriers.

Integrin alpha-4 is a transmembrane glycoprotein composed of a large extracellular domain, a single transmembrane helix, and a short cytoplasmic tail that links to cytoskeletal and signaling molecules. It facilitates rolling and firm adhesion of lymphocytes and monocytes during inflammatory responses, guiding immune cells to sites of tissue injury or infection. In the nervous system, it contributes to axonal guidance and glial cell adhesion.

The ITGA4 antibody is widely used in immunology, oncology, and vascular biology research to study adhesion, immune cell migration, and integrin-mediated signaling. Flow cytometry and western blot analyses identify Integrin alpha-4 as a 150 kilodalton band, while immunohistochemistry reveals membrane staining on leukocytes, endothelium, and fibroblasts. This antibody provides a means to examine integrin expression dynamics and cell adhesion regulation under physiological and pathological conditions.

Integrin alpha-4 is clinically relevant as a therapeutic target in multiple sclerosis and Crohn's disease, where monoclonal antibodies blocking alpha4-integrin (e.g., natalizumab) reduce leukocyte infiltration and inflammation. Aberrant expression also contributes to cancer metastasis and fibrotic diseases by enhancing cell adhesion and migration. The ITGA4 antibody supports investigations into these mechanisms by detecting endogenous protein in tissues and cell lines. NSJ Bioreagents offers this antibody validated for its applications, ensuring specificity and sensitivity for integrin research.

Application Notes

Optimal dilution of the ITGA4 antibody should be determined by the researcher.

Immunogen

E.coli-derived human Integrin Alpha 4/ITGA4 recombinant protein (Position: N35-V269) was used as the immunogen for the ITGA4 antibody.

Storage

After reconstitution, the ITGA4 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.