

Monoclonal Anti-human integrin $\beta 7$, $\alpha 4\beta 7$

Product reference: DDX1431

VLA-4 α chain/ $\alpha 4$ integrin/Integrin $\alpha 4$ chain/ITGA4, CD49d

$\beta 7$ Integrin, integrin βp , ITGB7

Description

Integrin $\alpha 4\beta 7$, also known as the lymphocyte Peyer's patch adhesion molecule (LPAM1) is a member of the integrin family of cell surface receptors. $\alpha 4\beta 7$ is expressed primarily on mucosal lymphocytes, but is also present on NK cells and eosinophils. $\alpha 4\beta 7$ mediates lymphocyte migration to the intestine through interaction with the mucosal addressin cell adhesion molecule-1 (MAdCAM-1), which is predominantly expressed on venules in the gut-associated lymphoid tissue (GALT) and intestinal lamina propria. HIV-1 gp120 was shown to bind to $\alpha 4\beta 7$, in accordance with the HIV's selective tropism for the intestinal immune system. HIV-1 binding to $\alpha 4\beta 7$ triggers cellular activation which may facilitate cell-to-cell HIV-1 transmission.

Integrin $\alpha 4$ is a 150 kD α chain that can pair with either integrin $\beta 1$ ($\alpha 4\beta 1$, VLA-4) or $\beta 7$ ($\alpha 4\beta 7$). $\alpha 4$ is expressed broadly on lymphocytes, monocytes, thymocytes, eosinophils, basophils, mast cells, NK cells, dendritic cells, and some non-hematopoietic cells, but not on normal red blood cells, platelets or neutrophils. $\alpha 4$ participates in mononuclear cell trafficking to endothelial sites of inflammation and has roles in cell-cell interactions and cell adhesion to extracellular matrices. $\alpha 4$ is involved in lymphocyte migration, T cell activation, and hematopoietic stem cell differentiation.

Integrin $\beta 7$ is a 130 kD glycoprotein, member of the Ig superfamily, that can pair with $\alpha 4$ to form the integrin receptor $\alpha 4\beta 7$, or with ITGAE (CD103) to form $\alpha E\beta 7$. $\alpha E\beta 7$ (CD103/ $\beta 7$, $\alpha_{IEL}\beta 7$) is expressed on intestinal intraepithelial lymphocytes (IEL), dendritic epidermal T cells, T regulatory cells, a subset of CD8+ T cells in lymph nodes and lamina propria. CD103/ $\beta 7$ complex is thought to play a role in lymphocyte retention via interaction with its ligand E-Cadherin.

Clone:

205F3

Immunogen:

rhu $\alpha 4\beta 7$ (R&D systems) and RPMI 8866 cells

Species cross-reactivity:

nd

Purification:

QMA Hyper-D Ion-exchange chromatography

Formulation/size:

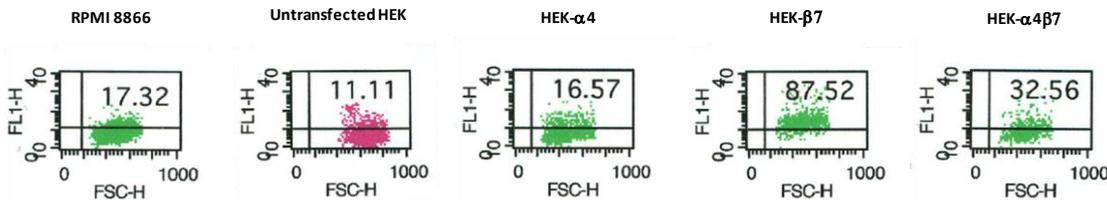
Purified: 100 μ g in 200 μ l / 50 μ g in 100 μ l Tris-NaCl pH 8

Coupled: 100 μ g in 200 μ l / 50 μ g in 100 μ l PBS 50% glycerol

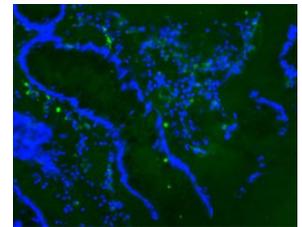
Available formats:

Reference	Format	Isotype	Specificity	Applications tested
DDX1431P-50	Purified	mouse IgM	$\beta 7$ ++++, $\alpha 4\beta 7$ ++	Flow cytometry, IF, gp120 blocking +
DDX1431P-100				
DDX1431A488-50	Alexa-Fluor [®] 488			
DDX1431A488-100				
DDX1431A546-50	Alexa-Fluor [®] 546			
DDX1431A546-100				
DDX1431A647-50	Alexa-Fluor [®] 647			
DDX1431A647-100				

Other clones available



FACS staining of RPMI 8866 cells ($\alpha 4^+ \beta 7^+$) and HEK transfected cells with DDX1431 (205F3) mAb



Gut sections (Crohn's disease)
IF staining of with DDX1431-A488/DAPI

Usage recommendation:

*This monoclonal antibody may be used between 5-20 μ g/ml.

*Optimal dilution should be determined by each laboratory for each application.

*Coupled antibody: to maintain RT before use.

Aliquot storage conditions: -20°C. KEEP CONTENTS STERILE: no preservative.

Purified antibodies: avoid repeated freeze/thaw cycles.

Coupled antibodies: glycerol protects from freezing.

Not for use in Humans. For research purpose only