

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

**Product reference: DDX1434**

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

**$\beta 7$  Integrin, integrin  $\beta p$ , 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  $\alpha$  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:

**111D9.03**

## 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  $\mu$ g in 200  $\mu$ l / 50  $\mu$ g in 100  $\mu$ l Tris-NaCl pH 8

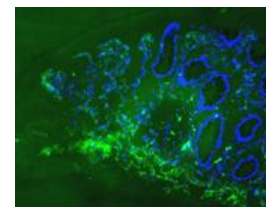
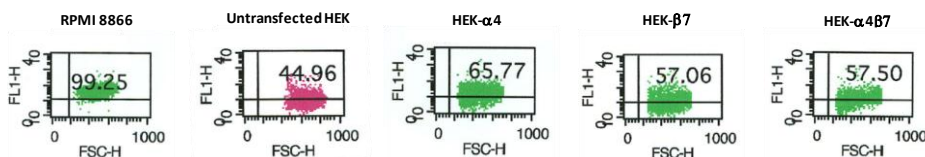
**Coupled:** 100  $\mu$ g in 200  $\mu$ l / 50  $\mu$ g in 100  $\mu$ l PBS 50% glycerol

## Available formats:

DDX1434P-50	111D9.03	mouse IgG1	$\alpha 4+++$ , $\beta 7+$ , $\alpha 4\beta 7+$	Flow cytometry, gp120 blocking ++
DDX1434P-100				
DDX1434A488-50				
DDX1434A488-100				
DDX1434A546-50				
DDX1434A546-100				
DDX1434A647-50				
DDX1434A647-100				

*Other clones available*

**Application tested :** Flow cytometry, IF



FACS staining of RPMI 8866 cells ( $\alpha 4^+ \beta 7^+$ ) and HEK transfected cells with **DDX1434** (111D9.03) mAb

Gut sections (Crohn's disease) IF staining with **DDX1434** / DAPI

## Usage recommendation:

\*This monoclonal antibody may be used between 5-20  $\mu$ 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**