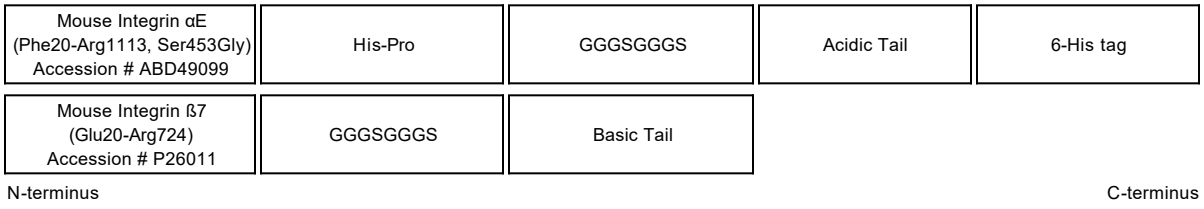
# Recombinant Mouse Integrin αEβ7

Catalog Number: 8356-A3

## DESCRIPTION

**Source** Chinese Hamster Ovary cell line, CHO-derived

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| **N-terminal Sequence Analysis** | Phe20 & Thr183 (αE), Glu20 (β7) |
| **Structure / Form** | Non-covalent heterodimer |
| **Predicted Molecular Mass** | 130 kDa (αE), 84 kDa (β7) |

## SPECIFICATIONS

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| **SDS-PAGE** | 112-128 kDa and 142-176 kDa, reducing conditions |
| **Activity** | Measured by its binding ability in a functional ELISA.<br>When Recombinant Mouse E-Cadherin Fc Chimera (Catalog # 748-EC) is coated at 2 µg/mL, Recombinant Mouse Integrin αEβ7 binds with an apparent $K_d$ <2.5 nM. |
| **Endotoxin Level** | <0.10 EU per 1 µg of the protein by the LAL method. |
| **Purity** | >95%, by SDS-PAGE with silver staining. |
| **Formulation** | Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details. |

## PREPARATION AND STORAGE

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| **Reconstitution** | Reconstitute at 500 µg/mL in sterile PBS. |
| **Shipping** | The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. |
| **Stability & Storage** | **Use a manual defrost freezer and avoid repeated freeze-thaw cycles.**<br>● 12 months from date of receipt, -20 to -70 °C as supplied.<br>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.<br>● 3 months, -20 to -70 °C under sterile conditions after reconstitution. |

## BACKGROUND

Integrin αEβ7 (also called M290 in mouse and HML-1 in human) is a type I transmembrane adhesion protein. It is composed of an αE subunit (epithelial-associated; also designated as CD103) which is expressed as disulfide-linked 150 kDa and 25 kDa heavy and light chains, and a non-covalently associated 130 kDa β7 glycoprotein subunit (1, 2). Each subunit has a transmembrane sequence and a short cytoplasmic tail. Integrin αEβ7 is the only known integrin family receptor containing the αE subunit, while the β7 subunit is also a component of Integrin α4β7 (1-3). The αE extracellular domain (ECD) contains 7 β-propeller domains surrounding an I domain followed by domains called tight, calf-1 and calf-2. An extra X domain, not found in any other alpha integrin, is also present and contains a proteolytic cleavage site (1, 2). The β7 ECD contains a vWFA domain, which interacts with the αE β-propeller to form a binding domain. The MIDAS motif (metal ion dependent adhesion site) is critical for binding of αEβ7 to its ligand, E-Cadherin (4). The 1093 amino acid (aa) mouse αE extracellular domain shares 79% and 99% aa sequence identity with human and rat αE respectively, while the 704 aa mouse β7 ECD shares 87% and 94% aa identity with human and rat β7, respectively. Integrin αEβ7 is mainly restricted to mucosal tissues, where it engages E-Cadherin (4-6). It was first identified as a marker of intestinal intra-epithelial lymphocytes (1, 5, 6). It has since been recognized that a variety of leukocytes, such as cytotoxic $CD8^+$ T cells, some dendritic cells, and effector/memory-like regulatory T cells, acquire Integrin αEβ7 in the days following their migration to epithelium in the intestines, lungs, and tonsils (6-13). In these tissues Integrin αEβ7 facilitates immune surveillance, including the destruction of infected or transformed epithelial cells and the induction of T cell adaptive responses (7-13). Pathologically, Integrin αEβ7 may be involved in allograft rejection of transplanted pancreatic islets and other tissues (14).

**References:**


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