Recombinant Mouse Integrin α5β1

Catalog Number: 7728-A5

DESCRIPTION

Source Chinese Hamster Ovary cell line, CHO-derived

Mouse Integrin α5 Phe45-Asn999 (Gly377Ala) Accession # P11688	GS Linker	Acidic Tail	HHHHHH
Mouse Integrin β1 (Gln21-Asp728) Accession # P09055	HP	GS Linker	Basic Tail

N-terminus C-terminus

N-terminal Sequence Analysis	Phe45 (Integrin α5) & Gln21 predicted, No results obtained: sequencing might be blocked (Integrin β1)
Structure / Form	Noncovalently-linked heterodimer
Predicted Molecular Mass	113 kDa (Integrin α5) & 86.5 kDa (Integrin β1)

SPECIFICATIONS

SDS-PAGE	115-165 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Bovine Fibronectin (Catalog # 1030-FN) is coated at 2 µg/mL, Recombinant Mouse Integrin α5β1 binds with an apparent K_D <0.5 nM.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE under reducing conditions and visualized by silver stain.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 500 µg/mL in 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.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Integrin alpha 5 beta 1, also known as VLA-5, is a widely expressed non-covalent heterodimer of a 160 kDa α5 and a 130 kDa β1 Integrin subunit. α5/β1 functions in cell adhesion, migration, activation, and matrix fibrillogenesis (1, 2). Mature mouse Integrin α5/CD49e consists of a 955 aa extracellular domain (ECD) with 7 tandem FG-GAP repeats, a 26 aa transmembrane segment, and a 28 aa cytoplasmic domain (3). Within the ECD, mouse α5 shares 91% and 97% aa sequence identity with human and rat α5, respectively. Mature mouse Integrin β1/CD29 consists of a 708 aa ECD with one vWF-A domain and a cysteine-rich region, followed by a 23 aa transmembrane segment and a 47 aa cytoplasmic domain (3). Within the ECD, mouse β1 shares 93% and 98% aa sequence identity with human and rat β1, respectively. α5/β1 binds Fibronectin in both RGD-dependent and -independent manners (4, 5). It is up-regulated on tumor vasculature and promotes angiogenesis (6, 7). This is accomplished in part by a constitutive association *in cis* of α5/β1 with VEGF R3 and Tie-2, a requirement for optimal activation of those receptors (8, 9). α5/β1 interacts with a variety of other proteins, including ErbB2, uPAR, Galectin-1, CTGF, and thrombin-cleaved Osteopontin (5, 10-13). α5/β1 also functions on some hematopoietic and neuronal stem cells (14-16).

References:

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