

Active Recombinant Human Integrin alpha 11 beta 1 Protein, His tagged

Cat. No. Integrin alpha 11 beta 1-54H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human Integrin alpha 11 (Phe23-Pro1141, Leu524Arg) and Human Integrin beta 1 (Gln21-Asp728) with C-6×His was expressed in Chinese Hamster Ovary cell line.
Species	Human
Source	CHO
ProteinLength	Integrin alpha 11: 23-1141, Leu524Arg Integrin beta 1: Gln21-Asp728
Description	Integrin alpha 11 beta 1 is a noncovalent, heterodimeric collagen receptor that contains a 150 kDa alpha 11 subunit complexed to a 130 kDa beta 1/CD29 subunit. alpha 11 beta 1 is the only known alpha 11-containing integrin. By contrast, at least twelve alpha-integrins share the beta 1 subunit. alpha 11 beta 1 is expressed on fibroblasts from cornea, skin and periodontal ligament. It is also expressed on mesenchymal stem cells and is considered a marker for non-muscle mesenchymal tissue. Expression of alpha 11 beta 1 is stimulated by TGF- beta 1, activin A, and type I interferons, and down-regulated by FGF-2. The alpha 11 extracellular domain (ECD) contains a vWFA domain which includes the ligand binding site. The beta 1 ECD also contains a vWFA domain, which participates in binding. Each subunit has a transmembrane sequence and a short cytoplasmic tail. The dimer assumes a folded configuration at "rest". Divalent cations and intracellular

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(inside-out) signaling convert it to an active, extended and open conformation. The 1120 amino acid (aa) human alpha 11 ECD shares 90-93 % aa sequence identity with mouse, rat, equine, canine and bovine alpha 11, while the 708 aa human beta 1 ECD shares 92-96 % aa sequence identity with rat, bovine, mouse, and feline beta 1. I domain-containing beta 1 integrins alpha 1 beta 1, alpha 2 beta 1, alpha 10 beta 1 and alpha 11 beta 1 all bind collagens. alpha 11 beta 1 preferentially binds interstitial collagens such as type I. It can contract collagen matrices and influence inflammatory edema. Depending on context, alpha 11 beta 1 can support or inhibit cell migration on collagen. It is frequently up-regulated in the stroma of lung adenocarcinomas and enhances tumorigenicity.

Form	Noncovalently-linked heterodimer
Molecular Mass	134.6 kDa (alpha 11) & 88.4 (beta 1)
N-terminal Sequence Analysis	Phe23 (alpha 11) & Gln21 (predicted, not observed) (beta 1)
Bio-Activity	Measured by its binding ability in a functional ELISA. Immobilized Collagen I at 10 µg/mL (100 µL/well) can bind Recombinant Human Integrin alpha 11 beta 1 with an apparent Kd < 2.0 nM.
Endotoxin	< 0.1 EU/µg by LAL.
Purity	> 95 % by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie Blue Staining.
Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. 12 months from date of receipt, -20 to -70 centigrade as supplied.

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	1 month, 2 to 8 centigrade under sterile conditions after reconstitution. 3 months, -20 to -70 centigrade under sterile conditions after reconstitution.
Storage Buffer	Lyophilized from a 0.2 µm filtered solution in PBS.
Reconstitution	Reconstitute at 100 µg/mL in PBS.
Shipping	The product is shipped at ambient temperature.
Reference	1. Takada, Y. et al. (2007) Genome Biol. 8:215. 2. Luo, B-H. et al. (2007) Annu. Rev. Immunol. 25:619. 3. Popova, S.N. et al. (2007) Acta Physiol. 190:179.
GENE INFORMATION	
Official Symbol	Integrin alpha 11 beta 1
Synonyms	Integrin alpha 11 beta 1; Integrin alpha 11; Integrin beta 1