Integrin alpha 5 beta 1 Protein, Human (HEK293, Flag-His)

Cat. No.:	HY-P73872
Synonyms:	CD49e; FNRA; Integrin alpha 5 beta 1; Integrin alpha-F; VLA-5; ITGB1; CD29
Species:	Human
Source:	HEK293
Accession:	P08648 (F42-Y995) & P05556-1 (Q21-D728)
Gene ID:	3678&3688
Molecular Weight:	Approximately 101.35 kDa

PROPERTIES

AA Sequence

FNLDAEAPAV LSGPPGSFFG FSVEFYRPGT DGVSVLVGAP
KANTSQPGVL QGGAVYLCPW GASPTQCTPI EFDSKGSRLL
ESSLSSSEGE EPVEYKSLQW FGATVRAHGS SILACAPLYS
WRTEKEPLSD PVGTCYLSTD NFTRILEYAP CRSDFSWAAG
QGYCQGGFSA EFTKTGRVVL GGPGSYFWQG QILSATQEQI
AESYYPEYLI NLVQGQLQTR QASSIYDDSY LGYSVAVGEF
SGDDTEDFVA GVPKGNLTYG YVTILNGSDI RSLYNFSGEQ
MASYFGYAVA ATDVNGDGLD DLLVGAPLLM DRTPDGRPQE
VGRVYVYLQH PAGIEPTPTL TLTGHDEFGR FGSSLTPLGD
LDQDGYNDVA IGAPFGGETQ QGVVFVFPGG PGGLGSKPSQ
VLQPLWAASH TPDFFGSALR GGRDLDGNGY PDLIVGSFGV
DKAVVYRGRP IVSASASLTI FPAMFNPEER SCSLEGNPVA
CINLSFCLNA SGKHVADSIG FTVELQLDWQ KQKGGVRRAL
FLASRQATLT QTLLIQNGAR EDCREMKIYL RNESEFRDKL
SPIHIALNFS LDPQAPVDSH GLRPALHYQS KSRIEDKAQI
LLDCGEDNIC VPDLQLEVFG EQNHVYLGDK NALNLTFHAQ
NVGEGGAYEA ELRVTAPPEA EYSGLVRHPG NFSSLSCDYF
AVNQSRLLVC DLGNPMKAGA SLWGGLRFTV PHLRDTKKTI
QFDFQILSKN LNNSQSDVVS FRLSVEAQAQ VTLNGVSKPE
AVLFPVSDWH PRDQPQKEED LGPAVHHVYE LINQGPSSIS
QGVLELSCPQ ALEGQQLLYV TRVTGLNCTT NHPINPKGLE
LDPEGSLHHQ QKREAPSRSS ASSGPQILKC PEAECFRLRC
ELGPLHQQES QSLQLHFRVW AKTFLQREHQ PFSLQCEAVY
KALKMPYRIL PRQLPQKERQ VATAVQWTKA EGSY
& QTDENRCLKA NAKSCGECIQ AGPNCGWCTN
STFLQEGMPT SARCDDLEAL KKKGCPPDDI ENPRGSKDIK
KNKNVTNRSK GTAEKLKPED ITQIQPQQLV LRLRSGEPQT
FTLKFKRAED YPIDLYYLMD LSYSMKDDLE NVKSLGTDLM
NEMRRITSDF RIGFGSFVEK TVMPYISTTP AKLRNPCTSE
QNCTSPFSYK NVLSLTNKGE VFNELVGKQR ISGNLDSPEG
GFDAIMQVAV CGSLIGWRNV TRLLVFSTDA GFHFAGDGKL

	G G I V L P N D G Q C H L E N N M Y T M S H Y Y D Y P S I A H L V Q K L S E N N I Q T I F A V T E E F Q P V Y K E L K N L I P K S A V G T L S A N S S N V I Q L I I D A Y N S L S S E V I L E N G K L S E G V T I S Y K S Y C K N G V N G T G E N G R K C S N I S I G D E V Q F E I S I T S N K C P K K D S D S F K I R P L G F T E E V E V I L Q Y I C E C E C Q S E G I P E S P K C H E G N G T F E C G A C R C N E G R V G R H C E C S T D E V N S E D M D A Y C R K E N S S E I C S N N G E C V C G Q C V C R K R D N T N E I Y S G K F C E C D N F N C D R S N G L I C G G N G V C K C R V C E C N P N Y T G S A C D C S L D T S T C E A S N G Q I C N G R G I C E C G V C K C T D P K F Q G Q T C E M C Q T C L G V C A E H K E C V Q C R A F N K G E K K D T C T Q E C S Y F N I T K V E S R D K L P Q P V Q P D P V S H C K E K D V D D C W F Y F T Y S V N G N N E V M V H V V E N P E C P T G P D
Biological Activity	Immobilized Fibronectin at 2 μg/mL (100 μL/well) can bind Biotinylated Integrin alpha 5 beta 1 protein. The ED_{50} for this effect is 2.49 ng/mL, corresponding to a specific activity is 4.02×10^5 Unit/mg.
Appearance	Lyophilized powder.
Formulation	Lyophilized from a 0.2 μm filtered solution of 20 mM PB, 150 mM NaCl, pH 7.4.
Endotoxin Level	<1 EU/μg, determined by LAL method.
Reconsititution	It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH_2O.
Storage & Stability	Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.
Shipping	Room temperature in continental US; may vary elsewhere.

DESCRIPTION

Background	The Integrin alpha-5/beta-1 protein (ITGA5:ITGB1) functions as a versatile receptor with diverse ligand interactions. Recognizing the R-G-D sequence in its ligands, ITGA5:ITGB1 serves as a receptor for fibronectin and fibrinogen, mediating cell adhesion through distinct binding sites. Notably, it binds to PLA2G2A at a site separate from its classical ligand-binding site, inducing conformational changes that enhance ligand binding. Additionally, ITGA5:ITGB1 acts as a receptor for fibrillin-1 (FBN1), facilitating R-G-D-dependent cell adhesion. It is also a receptor for fibronectin (FN1), enabling R-G-D-dependent cell adhesion to FN1. Furthermore, ITGA5:ITGB1 serves as a receptor for IL1B, playing a crucial role in IL1B signaling. In the context of microbial infection, ITGA5:ITGB1 acts as a receptor for Human metapneumovirus, highlighting its involvement in pathogen recognition. Moreover, ITGA5:ITGB3 acts as a receptor for soluble CD40LG, playing a vital role in CD40/CD40LG signaling. This broad spectrum of ligand interactions underscores the multifunctionality of ITGA5:ITGB1 in cellular processes and signaling pathways.

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