

Supplementary Table 1

3-D integrin structures: Ectodomain						
Integrin	Method	Domains	Conformation	Resolution	PDB	Ref
$\alpha v\beta 3$	Crystal	Ectodomain	Bent	3.1 Å	1JV2	Xiong (2001)
		Ectodomain + RGD peptide	Bent	3.2 Å	1L5G	Xiong (2002)
		Ectodomain + Mn ²⁺	Bent	3.3 Å	1M1X	Xiong (2002)
		Ectodomain	Bent	3.1 Å	1U8C	Xiong (2004)
		Ectodomain + TM	Bent	2.9 Å	3IJE	Xiong (2009)
		Ectodomain + Coiled-Coil Tag	Bent	3.0 Å	4G1E	Dong (2012)
		Ectodomain + Fibronectin domain	Bent	3.32 Å	4MMX	Van Agthoven (2014)
		Ectodomain + Fibronectin domain	Bent	3.18 Å	4MMY	Van Agthoven (2014)
		Ectodomain + Fibronectin domain	Bent	3.1 Å	4MMZ	Van Agthoven (2014)
		Ectodomain + Fab 17E6	Bent	3.61 Å	4O02	Mahalingam (2014)
	ns-EM	Ectodomain	Bent / Extended closed / Extended open	44 - 52 Å		Veesler (2014)
		Ectodomain + pb9	Bent / Extended closed / Extended open	50 - 60 Å		Veesler (2014)
		Ectodomain + Fab LM609	Bent	35 Å	6AVQ	Borst (2017)
		Ectodomain + Fab LM609	Partially extended	35 Å	6AVR	Borst (2017)
$\alpha_{iib}\beta 3$	Crystal	Ectodomain	Extended open	35 Å	6AVU	Borst (2017)
		Ectodomain	Bent	2.55 Å	3FCS	Zhu (2008)
$\alpha x\beta 2$	Crystal	Ectodomain	Bent	3.5 Å	3K6S	Xie (2010)
		Ectodomain	Bent	3.95 Å	3K71	Xie (2010)
		Ectodomain	Bent	3.7 Å	3K72	Xie (2010)
		Ectodomain	Bent	2.75 Å	4NEH	Sen (2013)
		Ectodomain	Bent	2.9 Å	4NEN	Sen (2013)
3-D integrin structures: Intact integrin						
$\alpha_{iib}\beta 3$	ns-EM	Intact in nanodisc	Bent/partially extended (headpiece pointing away from membrane)	20.5 Å	4CAK	Choi (2013)
	Cryo-EM	Intact in nanodisc	Bent/ partially extended/fully extended (headpiece pointing away from membrane)	>20 Å		Xu (2016)
		Intact	Extended?	~20 Å		Adair (2002)
2-D integrin structures: Intact integrin or ectodomain						
$\alpha_{iib}\beta 3$	ns-EM	Intact/nanodisc	Bent/ extended+ talin			Ye (2010)
		Intact/nanodisc	Bent ± Mn ²⁺ Extended open ± fibrin			Dai (2015)
$\alpha_x\beta 2$	ns-EM	Ectodomain	Bent / extended closed / extended open			Nishida (2006) Xie (2010)
$\alpha_L\beta 2$	ns-EM	Ectodomain	Bent / extended closed / extended open			Nishida (2006)
$\alpha 5\beta 1$	ns-EM	Ectodomain	Bent / extended closed / extended open ± ligand			Su (2016)
$\alpha v\beta 3$	ns-EM	Ectodomain	Bent / extended closed / extended open			Takagi (2002)
$\alpha v\beta 6$	ns-EM	Ectodomain	Bent / extended closed or open ± L-TGFβ1			Dong (2014) Dong (2017) Wang (2017)
$\alpha v\beta 8$	ns-EM	Ectodomain	Extended closed ± L-TGFβ1			Minagawa (2014) Wang (2017)

Supplementary Table 2

	Subunit	Domain	Consensus sequence	Present in crystal structure?	Present in Cryo-EM map?
N44	αV	Head	NTT	yes	yes
N260	αV	Head	NMS	yes	yes
N266	αV	Head	NFT	yes	yes
N458	αV	Thigh	NKT	yes	yes
N524	αV	Thigh	NMT	yes	yes
N585	αV	Thigh	NIS	yes	yes
N674	αV	Calf 1	NQT	no	no
N805	αV	Calf 2	NNT	yes	?
N821	αV	Calf 2	NCT	yes	yes
N844	αV	Calf 2	NDT	N/A*	N/A**
N915	αV	Calf 2	NHS	no	no
N943	αV	Calf 2	NST	yes	yes
N950	αV	Calf 2	NVT	yes	yes
N191	$\beta 8$	βI	NIT	N/A	yes
N360	$\beta 8$	Hybrid	NIT	N/A	yes
N379	$\beta 8$	Hybrid	NVT	N/A	yes
N389	$\beta 8$	Hybrid	NVT	N/A	yes
N414	$\beta 8$	Hybrid	NET	N/A	yes
N424	$\beta 8$	Hybrid	NCS	N/A	yes
N606	$\beta 8$	β -tail	NLS	N/A	?

* in a flexible loop not defined in 3IJE

** in a flexible loop not visible in the Cryo-EM map

? difficult to determine presence/absence of glycan

Supplementary Table 3

human α vc-c mutagenic primers sequence
5'-GGGCTGCTCGAAGCATGCCACCAAG-3'
5'-GATAGCGTATCTGCGGGATGAATGTGAATTTAGAGACAAACTCAC-3'
5'-GTGAGTTTGTCTCTAAATTCACATTCATCCCGCAGATACGCTATC-3'
5'-GTTTCCATTCCACTACAGGCTGATTTTCATCGG-3'
5'-CCGATGAAATCAGCCTGTAGTGAATGGAAAC-3'
5'-GGTGGTATGTGACCTTGGATGCCCAATGAAGGCTGG-3'
5'-CCAGCCTTCATTGGGCATCCAAGGTCACATACCACC-3'
5'-CTCCTCTTATCTCAACTGCAGCTAAAACAGCAAGATCAAC-3'

human β 3 HP primers sequence
5'-CTGGGATCCCAGTGTGAGTGaTaAGAGGAGGAC-3'
5'-AGATGCATGCTCGAGGCATGC-3'