

**Table S2: Details of all talin/integrin TM simulations.**

Simulation	Proteins	Coordinates	Duration (ns)
$\alpha\beta$ -talh2-CG	$\alpha$ IIb/ $\beta^*$ TM/talin (loop-res: 134-172/helix-res: 154-167)	2K9J + 3G9W+ 3IVF	5x4000
$\alpha\beta$ -talh2p-AT	$\alpha$ IIb/ $\beta^*$ TM/talin (loop-res: 134-172/helix-res: 154-167) partial		3x100
$\alpha\beta$ -talh2o-AT	$\alpha$ IIb/ $\beta^*$ TM/talin (loop-res: 134-172/helix-res: 154-167) open		2x100, 1x1000

TM = transmembrane helix.  $\beta^*$  indicates a chimeric  $\beta$  chain ( $\beta$ 3/ $\beta$ 1D) – see Methods for details).

All simulations were of the protein complex in a POPC/POPG lipid bilayer.