

Condition	Sample	Apical indentation (microns)	Wound area basal (%)	Basal indentation (microns)	Wound edge cells (%)	Wound area apical (%)	End time (minutes)	Apical wound area @ 6 minutes (%)
WT	WT - wing_disc_real	3,137	103,804	0,555	66,667	57,003	56,00	144,53
WT	WT - wing_disc_real_bottom_left	2,715	103,489	0,587	75,000	19,110	37,00	163,44
WT	WT - wing_disc_real_bottom_right	2,841	103,175	0,577	46,154	13,588	46,00	153,50
WT	WT - wing_disc_real_top_right	3,448	100,675	0,489	80,000	60,594	60,00	139,27
No lateral cables	No lateral cables - wing_disc_real	0,220	104,208	0,004	80,000	65,736	60,00	144,31
No lateral cables	No lateral cables - wing_disc_real_bottom_left	0,193	103,839	0,009	91,667	29,420	47,00	164,23
No lateral cables	No lateral cables - wing_disc_real_bottom_right	0,215	103,516	0,014	53,846	19,764	53,00	154,05
No lateral cables	No lateral cables - wing_disc_real_top_right	0,205	100,877	0,003	86,667	69,120	60,00	139,11
No intercalations	No intercalations - wing_disc_real	3,649	103,908	0,487	100,000	72,888	60,00	146,01
No intercalations	No intercalations - wing_disc_real_bottom_left	2,927	103,478	0,542	100,000	33,660	38,00	163,45
No intercalations	No intercalations - wing_disc_real_bottom_right	3,882	103,293	0,491	100,000	23,596	60,00	153,50
No intercalations	No intercalations - wing_disc_real_top_right	3,707	100,628	0,489	100,000	73,891	60,00	139,27
No substrate adhesion	No substrate - wing_disc_real	2,938	104,122	6,015	80,000	71,206	53,00	144,73
No substrate adhesion	No substrate - wing_disc_real_bottom_left	2,700	103,638	6,100	41,667	4,416	40,00	163,66
No substrate adhesion	No substrate - wing_disc_real_bottom_right	2,546	103,269	5,645	61,538	42,026	39,00	153,61
No substrate adhesion	No substrate - wing_disc_real_top_right	3,211	101,158	6,384	73,333	59,766	60,00	139,50
No purse string	No purse string - wing_disc_real	4,042	103,529	0,501	93,333	250,378	60,00	144,05
No purse string	No purse string - wing_disc_real_bottom_left	4,390	103,220	0,523	100,000	276,430	60,00	162,72
No purse string	No purse string - wing_disc_real_bottom_right	4,351	102,735	0,512	92,308	256,944	60,00	152,84
No purse string	No purse string - wing_disc_real_top_right	4,223	100,356	0,505	93,333	236,523	60,00	138,84
Talin-RNAi	Talin-RNAi - wing_disc_real	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Talin-RNAi	Talin-RNAi - wing_disc_real_bottom_left	2,915	103,579	6,768	75,000	29,438	34,00	163,70
Talin-RNAi	Talin-RNAi - wing_disc_real_bottom_right	3,192	103,225	6,850	61,538	41,661	38,00	153,80
Talin-RNAi	Talin-RNAi - wing_disc_real_top_right	3,959	101,078	7,559	60,000	61,431	54,00	139,93
Integrin-DN	Integrin-DN - wing_disc_real	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Integrin-DN	Integrin-DN - wing_disc_real_bottom_left	1,877	103,639	5,096	33,330	4,887	42,00	163,73
Integrin-DN	Integrin-DN - wing_disc_real_bottom_right	2,040	103,452	4,715	38,462	10,795	47,00	153,60
Integrin-DN	Integrin-DN - wing_disc_real_top_right	2,433	101,104	5,042	80,000	63,488	60,00	139,21
ShibireTS	ShibireTS - wing_disc_real	N/A	N/A	N/A	N/A	N/A	N/A	N/A
ShibireTS	ShibireTS - wing_disc_real_bottom_left	3,374	103,393	0,510	91,667	97,073	60,00	163,15
ShibireTS	ShibireTS - wing_disc_real_bottom_right	3,332	102,930	0,500	84,615	105,952	60,00	153,25
ShibireTS	ShibireTS - wing_disc_real_top_right	3,637	100,431	0,497	93,333	127,141	60,00	139,09
Mbs	Mbs - wing_disc_real	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mbs	Mbs - wing_disc_real_bottom_left	2,283	103,394	0,424	100,000	158,699	60,00	182,20
Mbs	Mbs - wing_disc_real_bottom_right	2,375	102,993	0,417	92,308	148,800	60,00	169,97
Mbs	Mbs - wing_disc_real_top_right	2,691	100,443	0,415	100,000	144,616	60,00	147,98

**TABLE EV1. COMPUTATIONAL SIMULATIONS QUANTIFICATIONS
OF EACH INDIVIDUAL SIMULATION.**

For all the conditions (WT, no lateral cables, no intercalations, no substrate adhesion, no purse string, Talin RNAi, Integrin DN, ShiTS, and Mbs RNAi), it was quantified: apical indentation (μm), wound area basal (%), basal indentation (microns), wound edge cells (%), apical wound area (%), end time (min), apical wound area at 6 min (%). N/A means that those simulations broke unexpectedly.