

**Table S1. Data for wild-type embryos at progressive stages**

Number of nuclei	15 somites	20 somites (19 hpf)	22 somites (20 hpf)	24 hpf	26-28 hpf	30 hpf	34 hpf	48 hpf
1	113	240	119	71	432	108	55	3
2	0	26	53	150	733	197	170	22
3	0	3	38	111	824	234	129	61
4	0	0	14	37	390	116	72	33
5	0	0	1	13	119	40	16	9
6	0	0	0	2	26	12	1	2
7	0	0	0	0	7	2	0	0
Total number of fibres	113	269	225	384	2531	709	443	130
Total number of nuclei	113	301	400	929	6730	1954	1156	419
Mean nuclei/fibre	1	1.12	1.78	2.42	2.66	2.76	2.61	3.22

**Table S2. Data for morphant embryos at 26-28 hpf**

	Dock1 ATG			Dock1 splice		Dock5 splice 1			Dock5 splice 2			D1spl & D5spl1	
	0.5 mM	1 mM	1.5 mM	0.3 mM	0.5 mM	0.3 mM	0.4 mM	0.5 mM	0.5 mM	1 mM	2 mM	0.225 & 0.3 mM	0.3 & 0.4 mM
Number of nuclei													
1	66	134	116	279	209	176	185	520	159	192	38	198	172
2	111	150	220	226	64	91	41	111	122	109	21	116	35
3	74	76	191	113	11	28	9	28	56	61	16	59	8
4	33	8	44	22	0	6	2	5	15	26	2	8	2
5	6	0	6	2	0	6	0	2	6	5	0	2	0
6	1	0	2	0	0	0	0	1	1	0	0	0	0
7	2	0	0	0	0	0	0	0	0	0	0	0	0
Total number of fibres	293	368	579	642	284	307	237	667	359	393	77	383	217
Total number of nuclei	692	694	1347	1168	370	496	302	862	667	722	136	649	274
Mean nuclei/fibre	2.36	1.89	2.33	1.82	1.30	1.62	1.27	1.29	1.86	1.84	1.77	1.69	1.26

	Crk ATG	Crk splice		Crk-like ATG			Crk-like splice		D5spl1 & CrkIATG		Crk spl & CrkIATG
	0.1 mM	0.5 mM	1 mM	0.3 mM	0.4 mM	0.5 mM	0.5 mM	2 mM	0.3 & 0.3 mM	0.4 & 0.4 mM	0.5 & 0.4 mM
Number of nuclei											
1	214	127	336	215	262	439	97	367	296	253	245
2	92	97	227	128	187	173	98	270	36	31	91
3	33	38	58	51	71	67	107	106	27	6	30
4	3	4	6	9	16	6	47	21	7	1	2
5	0	0	1	1	5	3	17	9	0	0	2
6	0	0	0	0	1	0	2	0	0	0	0
7	0	0	0	0	0	0	1	0	0	0	0
Total number of fibres	342	266	628	404	542	688	369	773	366	291	370
Total number of nuclei	509	451	993	665	944	1025	906	1354	477	337	535
Mean nuclei/fibre	1.49	1.70	1.58	1.65	1.74	1.49	2.46	1.75	1.30	1.16	1.45

Distribution of fibres according to number of nuclei. Mean nuclei/fibre calculated from total numbers of fibres and nuclei, i.e.  $n$ =number of fibres.

**Table S3. Data for embryos injected with *crk* and *crkl* mRNA, at 26-28 hpf**

Number of nuclei	Control	<i>crk</i> mRNA 0.3 $\mu\text{g}/\mu\text{l}$	Crk splice MO 1 mM	<i>crk</i> mRNA 0.3 $\mu\text{g}/\mu\text{l}$ & Crk spl MO 1 mM	<i>crkl</i> mRNA 0.1 $\mu\text{g}/\mu\text{l}$	Crkl splice MO 1.5 mM	<i>crkl</i> mRNA 0.3 $\mu\text{g}/\mu\text{l}$ & Crkl spl MO 1.5 mM
1	258	158	280	172	84	307	84
2	403	169	243	157	64	173	99
3	453	278	82	126	151	76	122
4	191	175	24	51	120	20	87
5	52	90	3	19	78	5	35
6	17	28	1	7	26	1	27
7	3	12	0	0	16	1	5
8	0	7	0	0	9	0	5
Total number of fibres	1377	910	633	532	539	583	459
Total number of nuclei	3570	2788	1129	1205	1875	999	1408
Mean nuclei/fibre	2.59	3.06	1.78	2.27	3.48	1.71	3.07

Control group injected with *mylz2:GFP* alone. Distribution of fibres according to number of nuclei. Mean nuclei/fibre calculated from total numbers of fibres and nuclei, i.e.  $n$ =number of fibres.

**Table S4. Data for wild-type embryos at progressive stages**

	15 somites	20 somites (19 hpf)	22 somites (20 hpf)	24 hpf	26-28 hpf	26-28 hpf	26-28 hpf	30 hpf	34 hpf	48 hpf
	1.00	1.00	2.32	2.70	2.46	3.26	1.93	3.18	2.34	3.17
	1.00	1.09	1.50	2.36	2.89	3.18	2.36	3.43	2.90	2.67
	1.00	1.09	1.42	2.00	2.29	3.06	2.71	2.67	2.12	2.88
	1.00	1.06	1.19	1.90	2.29	2.67	3.22	2.91	2.09	3.83
	1.00	1.00	1.36	2.11	2.50	2.18	3.04	3.14	2.75	3.83
	1.00	1.00	1.79	3.32	2.05	2.88	3.06	2.63	2.80	3.14
		1.00	2.54	3.00	2.51	2.76	2.39	2.43	2.97	3.25
		1.57		2.00	2.76	2.26	3.12	3.36	2.76	3.13
		1.25		2.53	3.22	2.25	2.70	3.47	3.21	
		1.43		2.19	2.07	2.52	2.72	2.90	3.36	
		1.12		3.20	2.71	2.38	2.78	3.13	2.33	
		1.09		2.46	2.55	2.29	2.70	2.58	2.83	
		1.67			3.25	2.26	2.38	3.14		
		1.26			3.00	2.05	2.54	2.97		
					2.22	2.25	3.19	2.45		
					2.63	1.76	2.50	2.59		
					3.16	1.44	2.56	2.64		
					2.53	1.53	2.87	2.62		
					2.54	3.18	2.24	2.78		
					2.63	2.55	2.63	2.28		
					2.92	2.93	2.96	2.47		
					2.61	3.42	2.95	2.08		
					2.70	2.36	1.50			
					3.09	3.58	2.56			
					3.09	3.15	2.62			
					3.41	1.80				
<b>N</b>	6	14	7	12		77		22	12	8
<b>Mean</b>	1	1.19	1.73	2.48		2.63		2.81	2.71	3.23

Mean nuclei/fibre values for individual embryos. Means are calculated using these values as sample points, to weight each embryo equally, i.e.  $n$ =number of embryos.

**Table S5. Data for morphant embryos at 26-28 hpf**

Morpholino:	Dock1 ATG			Dock1 splice		Dock5 splice 1			Dock5 splice 2			D1spl & D5spl1		
	Dose:	0.5 mM	1 mM	1.5 mM	0.3 mM	0.5 mM	0.3 mM	0.4 mM	0.5 mM	0.5 mM	1 mM	2 mM	0.225 & 0.3 mM	0.3 & 0.4 mM
		2.76	2.03	1.79	1.40	1.10	1.19	1.42	1.16	1.58	1.14	1.14	1.38	1.02
		2.78	2.14	2.49	1.64	1.33	1.71	1.50	1.26	1.23	1.50	1.33	2.12	1.10
		2.34	1.72	2.15	1.45	1.51	2.14	1.23	1.07	2.06	2.15	2.10	1.93	1.22
		2.21	1.43	2.55	1.08	1.17	1.62	1.00	1.09	2.28	1.14	2.00	1.24	1.89
		2.20	1.69	2.51	1.59	1.13	1.36	1.15	1.60	2.00	1.78	1.33	2.18	1.68
			2.05	2.76	1.35	1.62	1.59	1.26	1.18	1.72	1.87	1.50	1.55	1.00
			2.15	2.09	2.50		1.31	1.04	1.26	1.83	1.86		1.74	
			1.78	2.23	1.63		1.88	1.22	1.04	1.71	2.32		1.31	
			2.17	3.00	1.50		1.67	1.07	1.07	2.13	1.03			
			3.00	2.32	2.00		2.33	1.00	2.64	2.00	1.26			
			1.29	1.59	1.56		1.50	1.76	2.53	1.93	3.06			
			1.26	2.47	1.67				1.43	2.33	2.42			
				2.41	1.73				1.62	1.67	1.92			
				2.65	2.04				1.00	1.52				
				2.12	1.91				1.62	1.81				
				2.39	1.93				1.26	2.10				
					2.01				1.46	1.54				
					2.00				1.11	1.85				
					1.77				1.11	2.55				
									1.19	1.69				
									1.19					
									1.17					
									1.54					
									1.25					
									1.26					
N		5	12	16	19	6	11	11	25	20	13	6	8	6
Mean		2.46	1.89	2.35	1.72	1.31	1.66	1.24	1.36	1.88	1.80	1.57	1.68	1.32

  

Morpholino:	Crk ATG	Crk splice		Crk-like ATG			Crk-like splice		D5spl1 & CrklATG		Crk spl & CrklATG	
	Dose:	0.1 mM	0.5 mM	1 mM	0.3 mM	0.4 mM	0.5 mM	0.5 mM	2 mM	0.3 & 0.3 mM	0.4 & 0.4 mM	0.5 & 0.4 mM
		1.56	1.74	1.49	2.46	1.50	1.17	2.78	1.38	1.27	1.32	1.61
		1.47	1.54	1.79	1.97	2.00	1.07	2.53	2.00	2.54	1.09	1.15
		1.47	1.88	1.31	1.58	1.87	1.26	1.96	1.13	2.08	1.15	1.24
		1.31	1.48	1.17	2.33	1.70	1.29	3.67	1.85	2.19	1.04	1.34
		2.42	1.76	1.27	1.41	1.41	1.65	3.33	1.74	1.25	1.50	1.74
		1.37		1.54	1.57	2.58	1.22	2.92	2.26	1.07	1.12	1.22
		1.71		1.19	1.40	1.69	1.96	2.26	2.05	1.41	1.04	1.44
		1.18		1.58	1.67	1.76	1.55	3.33	1.47	1.04	1.07	2.19
				1.76	1.44	1.23	1.41	1.83	2.18	1.02	1.02	
				1.59	1.57	1.80	1.86	2.00	1.42	1.00	1.35	
				1.37	1.54	1.67	1.11	2.88	1.30	1.00	1.15	
				1.79	1.56	2.04	1.58	2.00	2.10	1.00		
				2.25	1.06	1.64	1.93	1.96	1.69	1.11		
				1.65		1.17	1.83	2.21	1.45			
				1.83		2.00	1.51	2.65	1.69			
				1.52		1.54	1.83		2.13			
						1.59	1.35		1.44			
						1.67	1.34		1.21			
						2.30	1.40		1.10			
									1.29			
									2.24			
									2.67			
									2.27			
									1.65			
									2.69			
									1.46			
									1.50			
									1.73			
									1.82			
									2.05			
N		8	5	16	13	19	19	15	30	13	11	8
Mean		1.56	1.68	1.57	1.66	1.74	1.49	2.55	1.77	1.38	1.17	1.49

Mean nuclei/fibre values for individual embryos. Means are calculated using these values as sample points, to weight each embryo equally, i.e.  $n$ =number of embryos.

**Table S6. Data for embryos injected with *crk* and *crkl* mRNA, at 26-28 hpf**

	Control	<i>crk</i> mRNA 0.3 µg/µl	Crk splice MO 1 mM	<i>crk</i> mRNA 0.3 µg/µl & Crk spl MO 1 mM	<i>crkl</i> mRNA 0.1 µg/µl	Crkl splice MO 1.5 mM	Crkl mRNA 0.3 µg/µl & Crkl spl MO 1.5 mM	
	2.72	2.71	3.09	1.87	2.54	3.64	1.13	3.96
	2.95	2.55	3.15	2.76	2.32	4.13	1.85	2.74
	2.20	2.34	2.46	2.18	2.41	4.04	2.52	3.15
	3.01	2.86	3.60	1.59	2.91	3.54	1.42	3.23
	2.81	2.91	3.29	2.30	1.60	3.39	2.22	2.28
	2.05	2.86	2.92	1.50	2.06	2.66	1.66	3.14
	2.62	2.22	3.17	1.78	2.61	2.95	2.00	2.37
	3.28	2.37	3.36	2.04	2.58	3.72	2.50	4.21
	1.73	2.48	3.10	1.40	2.58	3.29	2.04	3.23
	2.50	2.42	2.58	1.37	1.60	2.39	1.16	2.40
	2.19	2.64	3.04	1.72	1.62	3.27	1.58	2.27
	1.86	2.80	2.80	1.59	1.53	3.71	2.18	1.61
	2.22	2.52	2.30	1.82	1.78	3.10	1.36	3.22
	3.24	2.53	2.74	1.43	2.10	3.26	1.33	3.20
	2.71		3.05	1.52	1.21	4.20	2.17	
			3.30	1.59	2.00		1.47	
			1.16	2.31		1.45		
			1.88					
<b>N</b>	29	16	18	17	15	17	14	
<b>Mean</b>	2.56	3.00	1.75	2.10	3.42	1.77	2.93	

Control group injected with *mylz2:GFP* alone. Mean nuclei/fibre values for individual embryos. Means are calculated using these values as sample points, to weight each embryo equally, i.e.  $n$ =number of embryos.