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Active chromatin marks drive spatial sequestration of heterochromatin in *C. elegans* nuclei

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Table S1. Detailed statistical information for all zoning assays performed

Figure	strain	relevant mutations/RNAi	cell type	n (biologically independent GFP foci)	chi squared p value compared to random distribution	N (biologically independent treatments)
1c	GW1056	none	intestine	224	2.91359E-21	
1c	GW1046	met-2 set-25	intestine	261	2.37292E-24	
1c	GW1041	cec-4	intestine	221	4.67539E-17	
1c	GW1003	met-2 set-25; cec-4	intestine	169	2.29694E-14	
1c	GW1056	none	hypoderm	112	9.89431E-12	
1c	GW1046	met-2 set-25	hypoderm	182	2.33564E-14	
1c	GW1041	cec-4	hypoderm	163	1.33531E-11	
1c	GW1003	met-2 set-25; cec-4	hypoderm	190	5.05488E-15	
asterisks legend: * p<0.05 ** p<0.01 *** p<0.001						
chi squared p value compared to control						
1d	GW1037	cec-4/L4440	anterior intestine	82	NA	3
1d	GW1037	cec-4/mrg-1	anterior intestine	111	2.29599E-08	3
1d	GW1037	cec-4/akap-1	anterior intestine	171	0.000946748	3
1d	GW1037	cec-4/L4440	middle intestine	97	NA	3
1d	GW1037	cec-4/mrg-1	middle intestine	176	0.011995972	3
1d	GW1037	cec-4/akap-1	middle intestine	206	0.104614368	3
chi squared p value compared to control						
1e	GW871	met-2 set-25/L4440	anterior intestine	102	NA	3
1e	GW871	met-2 set-25/mrg-1	anterior intestine	121	0.000410993	3
1e	GW871	met-2 set-25/L4440	middle intestine	204	NA	3
1e	GW871	met-2 set-25/mrg-1	middle intestine	325	2.85165E-10	3
chi squared p value compared to wild type						
1f	GW1056	none	anterior intestine	70	NA	
1f	GW1041	cec-4	anterior intestine	107	0.073305422	
1f	GW1039	mrg-1	anterior intestine	65	0.083717968	
1f	GW1038	mrg-1; cec-4	anterior intestine	82	5.61955E-15	
1f	GW1056	none	middle intestine	132	NA	
1f	GW1041	cec-4	middle intestine	133	0.149815108	
1f	GW1039	mrg-1	middle intestine	112	0.02272088	
1f	GW1038	mrg-1; cec-4	middle intestine	176	8.51962E-06	
1f	GW1056	none	posterior intestine	83	NA	
1f	GW1041	cec-4	posterior intestine	78	0.922616485	
1f	GW1039	mrg-1	posterior intestine	65	9.30863E-07	
1f	GW1038	mrg-1; cec-4	posterior intestine	105	4.70252E-12	

				chi squared	
				p value compared to wild type	
1g	GW1056	none	hypoderm	112	NA
1g	GW1038	mrg-1; cec-4	hypoderm	108	0.009304294
1g	GW1056	none	intestine	224	NA
1g	GW1038	mrg-1; cec-4	intestine	275	2.45171E-16

				chi squared	
				p value compared to cec-4	
3e	GW1056	none	anterior intestine	70	
3e	GW1041	cec-4	anterior intestine	107	NA
3e	GW1252	mes-2; cec-4	anterior intestine	104	0.636418103
3e	GW1038	mrg-1; cec-4	anterior intestine	82	4.16876E-12
3e	GW1056	none	middle intestine	132	
3e	GW1041	cec-4	middle intestine	133	NA
3e	GW1252	mes-2; cec-4	middle intestine	176	0.723504505
3e	GW1038	mrg-1; cec-4	middle intestine	176	0.008312362
3e	GW1056	none	posterior intestine	83	
3e	GW1041	cec-4	posterior intestine	78	NA
3e	GW1252	mes-2; cec-4	posterior intestine	113	0.012393016
3e	GW1038	mrg-1; cec-4	posterior intestine	105	2.39431E-12

				chi squared	
				p value compared to met-2 set-25	
3f	GW871	met-2 set-25	anterior intestine	64	NA
3f	GW996	set-4; met-2 set-25	anterior intestine	60	0.50139106
3f	GW871	met-2 set-25	middle intestine	173	NA
3f	GW996	set-4; met-2 set-25	middle intestine	71	0.113633811
3f	GW871	met-2 set-25	posterior intestine	59	NA
3f	GW996	set-4; met-2 set-25	posterior intestine	35	0.072657431

				chi squared		
				p value compared to mrg-1; cec-4/L4440		
4a	GW1038	mrg-1; cec-4/L4440	anterior intestine	94	NA	3
4a	GW1038	mrg-1; cec-4/mys-1	anterior intestine	110	0.083442641	3
4a	GW1038	mrg-1; cec-4/mys-2	anterior intestine	136	0.663081991	3
4a	GW1038	mrg-1; cec-4/mys-4	anterior intestine	109	0.888446441	3
4a	GW1038	mrg-1; cec-4/lcy-12	anterior intestine	121	0.136867267	3
4a	GW1038	mrg-1; cec-4/hat-1	anterior intestine	71	0.996255847	3
4a	GW1038	mrg-1; cec-4/pcaf-1	anterior intestine	95	0.026056596	3
4a	GW1038	mrg-1; cec-4/C49F5.5	anterior intestine	97	0.408763762	3
4a	GW1038	mrg-1; cec-4/C29F9.5	anterior intestine	144	0.478309672	3
4a	GW1038	mrg-1; cec-4/cbp-3	anterior intestine	144	0.000641637	3

				chi squared p value compared to mrg-1; cec-4/L4440		
4b	GW1038	mrg-1; cec-4/L4440	anterior intestine	298	NA	5
4b	GW1038	mrg-1; cec-4/cbp-1	anterior intestine	322	0.000988888	5
				chi squared p value compared to wt		chi squared p value compared to cec-4
4c	GW1343	none	anterior intestine	205	NA	
4c	GW1658	ges-1::cbp-1	anterior intestine	137	0.482958057	
4c	GW1345	cec-4	anterior intestine	206	0.21402322	
4c	GW1641	cec-4; ges-1::cbp-1	anterior intestine	203	5.19103E-10	7E-08
				chi squared p value compared to mrg-1; cec-4/L4440		
4g	GW1038	mrg-1; cec-4/L4440	anterior intestine	197	NA	3
4g	GW1038	mrg-1; cec-4/atf-2	anterior intestine	132	0.961449248	3
4g	GW1038	mrg-1; cec-4/atf-8	anterior intestine	178	0.002873845	3
4g	GW1038	mrg-1; cec-4/cebp-1	anterior intestine	165	0.927384069	3
4g	GW1038	mrg-1; cec-4/ces-2	anterior intestine	122	0.280436587	3
4g	GW1038	mrg-1; cec-4/zip-2	anterior intestine	122	0.721866424	3
4g	GW1038	mrg-1; cec-4/zip-4	anterior intestine	114	0.666925436	3
4g	GW1038	mrg-1; cec-4/zip-6	anterior intestine	148	0.418914027	3
4g	GW1038	mrg-1; cec-4/zip-7	anterior intestine	142	0.068442998	3
4g	GW1038	mrg-1; cec-4/zip-8	anterior intestine	122	0.864524708	3
4g	GW1038	mrg-1; cec-4/zip-10	anterior intestine	132	0.629690864	3
				chi squared p value compared to cec-4		
4h	GW1345	cec-4	anterior intestine	189	NA	
4h	GW1641	cec-4; ges-1::cbp-1	anterior intestine	206	3.15002E-06	
4h	GW1646	cec-4; atf-8; ges-1::cbp-1	anterior intestine	140	0.759953879	
				chi squared p value compared to anterior+middle intestine		
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1a	GW1056	none	anterior+middle intestine	203	NA	
1a	GW447	none	anterior+middle intestine	151	NA	
1a	GW1056	none	posterior intestine	83	1.39036E-08	
1a	GW447	none	posterior intestine	47	0.000115086	
				chi squared p value compared to wild type		
2c	GW1056	none	anterior intestine	70	NA	

2c	GW1041	cec-4	anterior intestine	107	0.073305422
2c	GW1088	met-1; mes-4	anterior intestine	84	0.001759904
2c	GW1133	met-1; cec-4	anterior intestine	79	0.088725273
2c	GW1151	cec-4; mes-4	anterior intestine	67	0.000828409
2c	GW1090	met-1; cec-4; mes-4	anterior intestine	76	4.28857E-10
2c	GW1056	none	middle intestine	133 NA	
2c	GW1041	cec-4	middle intestine	133	0.149815108
2c	GW1088	met-1; mes-4	middle intestine	132	0.3405576
2c	GW1133	met-1; cec-4	middle intestine	120	0.005498726
2c	GW1151	cec-4; mes-4	middle intestine	175	3.99344E-07
2c	GW1090	met-1; cec-4; mes-4	middle intestine	174	5.16528E-06
2c	GW1056	none	posterior intestine	83 NA	
2c	GW1041	cec-4	posterior intestine	78	0.922616485
2c	GW1088	met-1; mes-4	posterior intestine	76	0.202332247
2c	GW1133	met-1; cec-4	posterior intestine	65	0.130409332
2c	GW1151	cec-4; mes-4	posterior intestine	67	0.37024589
2c	GW1090	met-1; cec-4; mes-4	posterior intestine	78	3.25642E-06

chi squared
p value compared to wild type

2e	GW1056	none	hypoderm	112 NA	
2e	GW1090	met-1; cec-4; mes-4	hypoderm	123	0.023064226
2e	GW1056	none	intestine	224 NA	
2e	GW1090	met-1; cec-4; mes-4	intestine	254	5.94871E-11

chi squared
p value compared to wt

4c	GW1047	none	embryos	395 na	
4c	GW1048	cec-4	embryos	361	2.19143E-17
4c	GW1039	mrg-1	embryos	346	0.591763785
4c	GW1038	mrg-1; cec-4	embryos	455	1.4034E-31

chi squared
p value compared to cec-4

5a	GW1038	mrg-1; cec-4/L4440	anterior intestine	90 NA	
5a	GW1038	mrg-1; cec-4/hda-1	anterior intestine	81	0.473764245
5a	GW1038	mrg-1; cec-4/hda-2	anterior intestine	78	0.272054086
5a	GW1038	mrg-1; cec-4/hda-3	anterior intestine	124	0.826493063
5a	GW1038	mrg-1; cec-4/hda-4	anterior intestine	108	0.417612179
5a	GW1038	mrg-1; cec-4/hda-5	anterior intestine	84	0.212037242
5a	GW1038	mrg-1; cec-4/hda-6	anterior intestine	82	0.849927204
5a	GW1038	mrg-1; cec-4/hda-10	anterior intestine	77	0.118756249
5a	GW1038	mrg-1; cec-4/hda-11	anterior intestine	45	0.447631658

chi squared
p value compared to mrg-1; cec-4/L4440

2
2
2
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2

5a	GW1038	mrg-1; cec-4/sin-3	anterior intestine	68	0.205897219	2
				chi squared p value compared to cec-4/L4440		
5c	GW1038	cec-4/L4440	anterior intestine	152 NA		3
5c	GW1038	cec-4/atf-8	anterior intestine	188	0.930178945	3
5c	GW1038	cec-4/zip-7	anterior intestine	190	0.463449416	3
5c	GW1038	cec-4/ces-2	anterior intestine	202	0.792281535	3
5c	GW1038	cec-4/cbp-3	anterior intestine	152	0.121977147	3
5c	GW1038	cec-4/cbp-1	anterior intestine	107	0.765747231	3

Table S1. Detailed statistical information for all zoning assays.

This table lists, for each figure panel displaying foci distribution as explained in Figure 1b and in the methods, the following information: strain name, relevant genetic background and/or RNAi treatment, the type of cells analyzed, the number of biologically independent GFP foci scored (n), the exact p value of the χ^2 test performed, where applicable the number of biologically independent treatments (e.g. RNAi) performed (N). At the top, an asterisks legend is outlined. L4440 is the control RNAi vector.

Table S2. Detailed statistical information for all non zoning assays.

Figure	strain	relevant information	n	statistical test and p value			N (biologically independent treatments)	asterisks legend:
				Two-sided wilcoxon rank sum test with continuity correction				
				p value over control	over mrg-1	over cec-4		
genotype/RNAi, region chrIII 10 kb bins								
1h	GW1378/GW1377	wt/L4440, LA	351	NA			3	* p<0.01
1h	GW1378/GW1377	wt/mrg-1, LA	351	0.00001866	NA		2	** p<0.0001
1h	GW1380/GW1379	cec-4/L4440, LA	351	9.731E-13	0.001776	NA	3	*** p<1E-10
1h	GW1380/GW1379	cec-4/mrg-1, LA	351	< 2.2E-16	6.288E-10	0.001	3	
1h	GW1378/GW1377	wt/L4440, C	644	NA			3	
1h	GW1378/GW1377	wt/mrg-1, C	644	0.0005707	NA		2	
1h	GW1380/GW1379	cec-4/L4440, C	644	< 2.2E-16	4.429E-10	NA	3	
1h	GW1380/GW1379	cec-4/mrg-1, C	644	< 2.2E-16	5.419E-13	0.1928	3	
1h	GW1378/GW1377	wt/L4440, RA	384	NA			3	
1h	GW1378/GW1377	wt/mrg-1, RA	384	0.003473	NA		2	
1h	GW1380/GW1379	cec-4/L4440, RA	384	0.004071	0.85	NA	3	
1h	GW1380/GW1379	cec-4/mrg-1, RA	384	0.001866	0.8758	0.7082	3	
				Two-sided wilcoxon rank sum test with continuity correction				
genotype/RNAi, region all autos 10 kb bins				p value over control				
1j	GW1378/GW1377	wt/L4440, A w/ PC	2689	NA			3	* p<0.01
1j	GW1380/GW1379	cec-4/mrg-1, A w/ PC	2689	< 2.2E-16			3	** p<0.0001
1j	GW1378/GW1377	wt/L4440, center	3125	NA			3	*** p<1E-10
1j	GW1380/GW1379	cec-4/mrg-1, center	3125	< 2.2E-16			3	
1j	GW1378/GW1377	wt/L4440, A w/o PC	2444	NA			3	
1j	GW1380/GW1379	cec-4/mrg-1, A w/o PC	2444	4.504E-12			3	
				Two-sided ttest				
2a	N2 (GW1)	genotype wt	500 bp genomic fragments	200538	< 2.2E-16			
				Two-sided wilcoxon rank sum test with continuity correction				
Class 3 genes 1kb bins				p value over control				
4e	GW1378/GW1377	wt/L4440	298	NA			3	* p<0.01
4e	GW1378/GW1377	wt/mrg-1	298	8.141E-09			2	** p<0.0001
4e	GW1380/GW1379	cec-4/L4440	298	0.1376			3	*** p<1E-10
4e	GW1380/GW1379	cec-4/mrg-1	298	6.66E-08			3	
Control genes class 3				p value over control				
4e	GW1378/GW1377	wt/L4440	238	NA			3	
4e	GW1378/GW1377	wt/mrg-1	238	0.2951			2	
4e	GW1380/GW1379	cec-4/L4440	238	0.9161			3	
4e	GW1380/GW1379	cec-4/mrg-1	238	0.1319			3	
				unpaired, two tails Ttest				
genotype/RNAi primer region				p value over control				
4i	GW1636	cec-4/L4440 3 C/EBP motifs	qPCR product-average of 3 technical replicas	1	NA		3	* p<0.05
4i	GW1636	cec-4/mrg-1 3 C/EBP motifs		1	0.002485452		3	** p<0.01
4i	GW1636	cec-4/L4440 2 C/EBP motifs		1	NA		3	*** p<0.001

4i	GW1636	cec-4/mrg-1 2 C/EBP motifs	1	0.011807652	3	
4i	GW1636	cec-4/L4440 1 C/EBP motif	1 NA		3	
4i	GW1636	cec-4/mrg-1 1 C/EBP motif	1	0.053989407	3	
4i	GW1636	cec-4/L4440 reporter baf-1 pro	1 NA		3	
4i	GW1636	cec-4/mrg-1 reporter baf-1 pro	1	0.004062918	3	
4i	GW1636	cec-4/L4440 euchromatic region	1 NA		3	
4i	GW1636	cec-4/mrg-1 euchromatic region	1	0.004065	3	
			qPCR product- average of 3 technical replicas	unpaired, two tails Ttest p value over control		
4j	GW1636	cec-4/L4440 3 C/EBP motifs	1 NA		3	* p<0.05
4j	GW1636	cec-4/mrg-1 3 C/EBP motifs	1	0.022360413	3	** p<0.01
4j	GW1636	cec-4/L4440 2 C/EBP motifs	1 NA		3	*** p<0.001
4j	GW1636	cec-4/mrg-1 2 C/EBP motifs	1	0.09340836	3	
4j	GW1636	cec-4/L4440 1 C/EBP motif	1 NA		3	
4j	GW1636	cec-4/mrg-1 1 C/EBP motif	1	0.153418357	3	
4j	GW1636	cec-4/L4440 reporter baf-1 pro	1 NA		3	
4j	GW1636	cec-4/mrg-1 reporter baf-1 pro	1	0.031428942	3	
4j	GW1636	cec-4/L4440 euchromatic region	1 NA		3	
4j	GW1636	cec-4/mrg-1 euchromatic region	1	0.463892765	3	

Extended Data Figure

			Two-sided wilcoxon rank sum test with continuity correction					
genotype, region		10 kb bins	p value over control	over mrg-1	over cec-4			
2c	GW1378/GW1377 wt/L4440, arm w/ PC	2689	NA			3		* p<0.01
2c	GW1378/GW1377 wt/mrg-1, arm w/ PC	2689	<2.2E-16	NA		2		** p<0.0001
2c	GW1380/GW1379 cec-4/L4440, arm w/ PC	2689	<2.2E-16	0.9478	NA	3		*** p<1E-10
2c	GW1380/GW1379 cec-4/mrg-1, arm w/ PC	2689	<2.2E-16	5.785E-10	2.39E-10	3		
2c	GW1378/GW1377 wt/L4440, C	3125	NA			3		
2c	GW1378/GW1377 wt/mrg-1, C	3125	0.003042	NA		2		
2c	GW1380/GW1379 cec-4/L4440, C	3125	<2.2E-16	<2.2E-16	NA	3		
2c	GW1380/GW1379 cec-4/mrg-1, C	3125	<2.2E-16	<2.2E-16	0.7861	3		
2c	GW1378/GW1377 wt/L4440, arm w/o PC	2444	NA			3		
2c	GW1378/GW1377 wt/mrg-1, arm w/o PC	2444	<2.2E-16	NA		2		
2c	GW1380/GW1379 cec-4/L4440, arm w/o PC	2444	1.768E-08	0.000116	NA	3		
2c	GW1380/GW1379 cec-4/mrg-1, arm w/o PC	2444	4.504E-12	0.02886	0.1127	3		
			Two-sided wilcoxon rank sum test with continuity correction					
genotype, chr, region		10 kb bins	p value over control	over mrg-1	over cec-4			
2d	GW1378/GW1377 wt/L4440, chlI, LA	375	NA			3		* p<0.01
2d	GW1378/GW1377 wt/mrg-1, chlI, LA	375	0.007103	NA		2		** p<0.0001
2d	GW1380/GW1379 cec-4/L4440,chlI, LA	375	1.762E-07	0.01006	NA	3		*** p<1E-10
2d	GW1380/GW1379 cec-4/mrg-1, chlI, LA	375	0.000002344	0.03356	0.6985	3		
2d	GW1378/GW1377 wt/L4440, chlI, C	706	NA			3		
2d	GW1378/GW1377 wt/mrg-1, chlI, C	706	0.0003642	NA		2		
2d	GW1380/GW1379 cec-4/L4440, chlI, C	706	8.57E-15	4.941E-05	NA	3		
2d	GW1380/GW1379 cec-4/mrg-1, chlI, C	706	<2.2E-16	2.309E-10	0.005903	3		

2d	GW1378/GW1377 wt/L4440, chrI, RA	427 NA				3
2d	GW1378/GW1377 wt/mrg-1, chrI, RA	427	0.01692 NA			2
2d	GW1380/GW1379 cec-4/L4440, chrI, RA	427	2.937E-11	1.445E-05 NA		3
2d	GW1380/GW1379 cec-4/mrg-1, chrI, RA	427	8.464E-14	3.647E-07	0.3827	3
2d	GW1378/GW1377 wt/L4440, chrII, LA	471 NA				3
2d	GW1378/GW1377 wt/mrg-1, chrII, LA	471	2.786E-07 NA			2
2d	GW1380/GW1379 cec-4/L4440, chrII, LA	471	0.00001569	0.3959 NA		3
2d	GW1380/GW1379 cec-4/mrg-1, chrII, LA	471	4.552E-14	0.004982	0.0003514	3
2d	GW1378/GW1377 wt/L4440, chrII, C	717 NA				3
2d	GW1378/GW1377 wt/mrg-1, chrII, C	717	0.05246 NA			2
2d	GW1380/GW1379 cec-4/L4440, chrII, C	717 <2.2E-16		7.12E-14 NA		3
2d	GW1380/GW1379 cec-4/mrg-1, chrII, C	717 <2.2E-16		2.02E-12	0.6684	3
2d	GW1378/GW1377 wt/L4440, chrII, RA	340 NA				3
2d	GW1378/GW1377 wt/mrg-1, chrII, RA	340	0.0006282 NA			2
2d	GW1380/GW1379 cec-4/L4440, chrII, RA	340	0.01641	0.2222 NA		3
2d	GW1380/GW1379 cec-4/mrg-1, chrII, RA	340	0.007149	0.4178	0.7114	3
2d	GW1378/GW1377 wt/L4440, chrIV, LA	732 NA				3
2d	GW1378/GW1377 wt/mrg-1, chrIV, LA	732	1.28E-06 NA			2
2d	GW1380/GW1379 cec-4/L4440, chrIV, LA	732	0.1804	0.0001873 NA		3
2d	GW1380/GW1379 cec-4/mrg-1, chrIV, LA	732	0.0001859	0.3249	0.007519	3
2d	GW1378/GW1377 wt/L4440, chrIV, C	486 NA				3
2d	GW1378/GW1377 wt/mrg-1, chrIV, C	486	0.9905 NA			2
2d	GW1380/GW1379 cec-4/L4440, chrIV, C	486	1.07E-07	4.51E-08 NA		3
2d	GW1380/GW1379 cec-4/mrg-1, chrIV, C	486	8.62E-06	6.13E-06	0.3402	3
2d	GW1378/GW1377 wt/L4440, chrIV, RA	532 NA				3
2d	GW1378/GW1377 wt/mrg-1, chrIV, RA	532	9.31E-08 NA			2
2d	GW1380/GW1379 cec-4/L4440, chrIV, RA	532	0.002856	0.006188 NA		3
2d	GW1380/GW1379 cec-4/mrg-1, chrIV, RA	532	0.002739	0.01339	0.853	3
2d	GW1378/GW1377 wt/L4440, chrV, LA	813 NA				3
2d	GW1378/GW1377 wt/mrg-1, chrV, LA	813	7.66E-08 NA			2
2d	GW1380/GW1379 cec-4/L4440, chrV, LA	813	0.5012	3.83E-07 NA		3
2d	GW1380/GW1379 cec-4/mrg-1, chrV, LA	813	0.005187	0.007973	0.02064	3
2d	GW1378/GW1377 wt/L4440, chrV, C	572 NA				3
2d	GW1378/GW1377 wt/mrg-1, chrV, C	572	0.07612 NA			2
2d	GW1380/GW1379 cec-4/L4440, chrV, C	572 <2.2E-16		<2.2E-16	NA	3
2d	GW1380/GW1379 cec-4/mrg-1, chrV, C	572	1.15E-15	<2.2E-16	0.005075	3
2d	GW1378/GW1377 wt/L4440, chrV, RA	708 NA				3
2d	GW1378/GW1377 wt/mrg-1, chrV, RA	708	2.26E-10 NA			2
2d	GW1380/GW1379 cec-4/L4440, chrV, RA	708	3.17E-08	0.3144 NA		3
2d	GW1380/GW1379 cec-4/mrg-1, chrV, RA	708 <2.2E-16		0.00837	0.0001465	3
2e	GW1378/GW1377 wt/L4440, chrX, LA	419 NA				3
2e	GW1378/GW1377 wt/mrg-1, chrX, LA	419	0.001583 NA			2
2e	GW1380/GW1379 cec-4/L4440, chrX, LA	419	0.6943	0.0001562 NA		3

2e	GW1380/GW1379	cec-4/mrg-1, chrX, LA	419	0.001073	0.9533	7.11E-05	3	
2e	GW1378/GW1377	wt/L4440, chrX, C	1353	NA			3	
2e	GW1378/GW1377	wt/mrg-1, chrX, C	1353	1.74E-15	NA		2	
2e	GW1380/GW1379	cec-4/L4440, chrX, C	1353	<2.2E-16	<2.2E-16	NA	3	
2e	GW1380/GW1379	cec-4/mrg-1, chrX, C	1353	0.1442	<2.2E-16	<2.2E-16	3	
Two-sided wilcoxon rank sum test with continuity correction								
		genotype	GFP foci measured	p value over wt				* p<0.05
4d	GW1047	none	91	na				** p<0.01
4d	GW1048	cec-4	92	0.03417				*** p<0.001
4d	GW1038	mrg-1	91	5.72E-11				
4d	GW1039	mrg-1; cec-4	97	0.6024				
Two-sided wilcoxon rank sum test with continuity correction								
		genotype	GFP foci measured	p value over wt				* p<0.05
4e	GW1047	none	91	na				** p<0.01
4e	GW1048	cec-4	92	9.37E-05				*** p<0.001
4e	GW1038	mrg-1	91	1.00E-09				
4e	GW1039	mrg-1; cec-4	97	1.89E-07				
Two-sided wilcoxon rank sum test with continuity correction								
		genotype, tissue	nuclei measured	p value over wt				* p<0.05
4f	GW1047	wt, intestine	86	NA				** p<0.01
4f	GW1039	mrg-1, intestine	94	8.13E-16				*** p<0.001
4f	GW1047	wt, intestine	42	NA				
4f	GW1039	mrg-1, hypoderm	58	4.547E-13				
4f	GW1047	wt, intestine	99	NA				
4f	GW1090	met-1; mes-4, intestine	99	< 2.2e-16				
4f	GW1047	wt, intestine	53	NA				
4f	GW1090	met-1; mes-4, hypoderm	58	< 2.2e-16				
unpaired, two tails Ttest								
		genotype/RNAi primer region	qPCR product- average of 3 tech	p value over control				
4h	GW1636	cec-4/L4440 sel class 3 gene 1	1	NA				* p<0.05
4h	GW1637	cec-4/L4440 sel class 3 gene 1	1	0.898781178				** p<0.01
4h	GW1638	cec-4/L4440 sel class 3 gene 2	1	NA				*** p<0.001
4h	GW1639	cec-4/L4440 sel class 3 gene 2	1	0.803753431				
4h	GW1640	cec-4/L4440 reporter baf-1 pro	1	NA				
4h	GW1641	cec-4/mrg-1 reporter baf-1 pro	1	0.480163203				
4h	GW1642	cec-4/L4440 euchromatic region	1	NA				
4h	GW1643	cec-4/mrg-1 euchromatic region	1	0.911283907				

Table S2. Detailed statistical information for all non zoning assays.

This table lists, for each figure panel indicated, the following information: strain name, relevant information such as the genetic background and/or RNAi treatment and the genomic regions analyzed, a description of the number of biologically independent samples scored (n), the exact p value of the indicated statistical test performed, where applicable the number of biologically independent treatments (e.g. RNAi) performed (N) and an asterisks legend. LA (left arm), C (center), RA (right arm), PC (pairing center), L4440 (control RNAi vector)

Table S3. List of worm strains used in the study

Strain	Genotype	Reference	*CGC: Caenorhabditis Genetics Center Alleles marked with a question mark (?) were not genotyped after genetic cross
N2	wild-type, Bristol isolate		
GW447	<i>gwl539 [baf-1::gfp-lacI::let-858 3'UTR; vit-5::gfp]; gwl542[256xlacO; unc-119+]; ygl5[lmn-1::lmn-1::gfp::lmn-1 3'UTR, unc-119+]; unc-119(?)</i>	Meister et al., 2010	
GW554	<i>met-1(n4337) I; dpy-11(e224) mes-4(bn23) unc-76(e911)V/nT1[unc(n754) let-?(IV;V); gwl54 [baf-1p::GFP-lacI::let-858 3'UTR; myo-3p::RFP] X</i>	Towbin et al., 2012	
GW566	<i>gwl539 [baf-1::GFP-LacI::let-858 3'UTR; vit-5::GFP] III; gwl54 [baf-1p::GFP-lacI::let-858 3'UTR; myo-3p::RFP] X</i>	Towbin et al., 2012	
GW637	<i>met-2(n4256) set-25(n5021) III; gwl54 [baf-1p::GFP-lacI::let-858 3'UTR; myo-3p::RFP] X</i>	Towbin et al., 2012	
GW833	<i>cec-4(ok3124) IV; gwl54[myo-3::RFP baf-1::GFP lacI let-858] X.</i>	Gonzalez-Sandoval et al., 2015	
GW871	<i>gwl517 [cec-4p::cec-4::WmCherry::cec-4 3'UTR] II; met-2(n4256) set-25(n5021) III; gwl54 [baf-1p::GFP-lacI::let-858 3'UTR; myo-3p::RFP] X</i>	Gonzalez-Sandoval et al., 2015	
GW996	<i>gwl517 [cec-4p::CEC-4-WmCherry::cec-4 3'UTR] II; set-4(n4600) II; met-2(n4256) set-25(n5021) III; gwl54 [baf-1p::GFP-lacI::let-858 3'UTR; myo-3p::RFP] X</i>	This study	
GW1003	<i>bqSi142 [pBN20(unc-119(+)) Pemr-1::emr-1::mCherry] II; met-2(n4256) set-25(n5021) III; cec-4(ok3124) IV; gwl54 [baf-1p::GFP-lacI::let-858 3'UTR; myo-3p::RFP] X</i>	This study	
GW1037	<i>gwl518 [cec-4p::CEC-4_Y87A_Y111A-WmCherry::cec-4 3'UTR] ttT5605 II; gwl539 [baf-1::GFP-LacI::let-858 3'UTR; vit-5::GFP] III; cec-4(ok3124) IV; gwl54 [baf-1p::GFP-lacI::let-858 3'UTR; myo-3p::RFP] X</i>	This study	
GW1038	<i>bqSi142 [pBN20 Pemr-1::emr-1::mCherry] II; mrg-1(tm1227)/qC1 dpy-19(e1259) glp-1(q339)[qls26] III; gwl54 [baf-1p::GFP-lacI::let-858 3'UTR; myo-3p::RFP] X</i>	This study	
GW1039	<i>bqSi142 [pBN20 Pemr-1::emr-1::mCherry] II; mrg-1(tm1227)/qC1 dpy-19(e1259) glp-1(q339)[qls26] III; cec-4(ok3124) IV; gwl54 [baf-1p::GFP-lacI::let-858 3'UTR; myo-3p::RFP] X</i>	This study	
GW1041	<i>bqSi142 [pBN20 Pemr-1::emr-1::mCherry] II; gwl539 [baf-1::GFP-LacI::let-858 3'UTR; vit-5::GFP] III; cec-4(ok3124) IV; gwl54 [baf-1p::GFP-lacI::let-858 3'UTR; myo-3p::RFP] X</i>	Gonzalez-Sandoval et al., 2015	
GW1046	<i>bqSi142 [pBN20(unc-119(+)) Pemr-1::emr-1::mCherry] II; met-2(n4256) set-25(n5021) III; gwl54 [baf-1p::GFP-lacI::let-858 3'UTR; myo-3p::RFP] X</i>	This study	
GW1047	<i>bqSi142 [pBN20(unc-119(+)) Pemr-1::emr-1::mCherry] II; gwl54 [baf-1p::GFP-lacI::let-858 3'UTR; myo-3p::RFP] X</i>	This study	
GW1048	<i>bqSi142 [pBN20(unc-119(+)) Pemr-1::emr-1::mCherry] II; cec-4(ok3124) IV; gwl54 [baf-1p::GFP-lacI::let-858 3'UTR; myo-3p::RFP] X</i>	This study	
GW1056	<i>bqSi142 [pBN20(unc-119(+)) Pemr-1::emr-1::mCherry] II; gwl539 [baf-1::GFP-LacI::let-858 3'UTR; vit-5::GFP] III; gwl54 [baf-1p::GFP-lacI::let-858 3'UTR; myo-3p::RFP] X</i>	Gonzalez-Sandoval et al., 2015	
GW1088	<i>met-1(n4337) I; bqSi142[pBN20(unc-119(+)) Pemr-1::emr-1::mCherry] II; dpy-11(e224) mes-4(bn23) unc-76(e911)V/nT1[unc-?(n754) let-?(IV;V); gwl54 [baf-1p::GFP-lacI::let-858 3'UTR; myo-3p::RFP] X</i>	This study	
GW1090	<i>met-1(n4337) I; bqSi142[pBN20(unc-119(+)) Pemr-1::emr-1::mCherry] II; dpy-11(e224) mes-4(bn23) unc-76(e911)V/nT1[unc-?(n754) let-?(IV;V); cec-4(ok3124) IV/nT1[unc-?(n754) let-?(IV;V); gwl54 [baf-1p::GFP-lacI::let-858 3'UTR; myo-3p::RFP] X</i>	This study	
GW1133	<i>met-1(n4337) I; bqSi142[pBN20(unc-119(+)) Pemr-1::emr-1::mCherry] II; gwl539 [baf-1::GFP-LacI::let-858 3'UTR; vit-5::GFP] III; cec-4(ok3124) IV; gwl54 [baf-1p::GFP-lacI::let-858 3'UTR; myo-3p::RFP] X</i>	This study	
GW1151	<i>bqSi142[pBN20(unc-119(+)) Pemr-1::emr-1::mCherry] II; dpy-11(e224) mes-4(bn23) unc-76(e911)V/nT1[unc-?(n754) let-?(IV;V); cec-4(ok3124) IV/nT1[unc-?(n754) let-?(IV;V); gwl54 [baf-1p::GFP-lacI::let-858 3'UTR; myo-3p::RFP] X</i>	This study	
GW1183	<i>met-1(n4337) I</i>	This study	
GW1252	<i>bqSi142[pBN20(unc-119(+)) Pemr-1::emr-1::mCherry]/mnC1 dpy-10(e128) unc-52(e444) II; mes-2(bn11) unc-4(e120)/mnC1 dpy-10(e128) unc-52(e444) II; cec-4(ok3124) IV; gwl54 [baf-1p::GFP-lacI::let-858 3'UTR; myo-3p::RFP] X</i>	This study	
GW1297	<i>gwl522[mrg-1p::WmCherry-MRG-1::mrg-1 3' UTR; unc-119+]II; gwl539 [baf-1::GFP-LacI::let-858 3'UTR; vit-5::GFP] III; gwl54 [baf-1p::GFP-lacI::let-858 3'UTR; myo-3p::RFP] X</i>	This study	
GW1343	<i>gwl54[myo-3::RFP baf-1::GFP lacI let-858] X; gwl539[baf-1::GFP-LacI::let-858 3'UTR; vit-5::GFP] III; bqSi225[pBN34(unc-119(+)) Pemr-1::emr-1::mcherry] IV</i>	This study	
GW1345	<i>gwl54[myo-3::RFP baf-1::GFP lacI let-858] X; gwl539[baf-1::GFP-LacI::let-858 3'UTR; vit-5::GFP] III; bqSi225[pBN34(unc-119(+)) Pemr-1::emr-1::mcherry] IV; cec-4(ok3124) IV</i>	This study	
GW1377	<i>bqSi433[pBN209(unc-119(+)) Phsp16.41::FRT::mCh::his-58::FRT::dam::emr-1] II; bqSi508[pBN282(unc-119(+)) Pel-2::FLP_D5] IV.</i>	This study	
GW1378	<i>bqSi447[pBN181(unc-119(+)) Phsp16.41::FRT::mCh::his-58::FRT::afn::dam] II; bqSi508[pBN282(unc-119(+)) Pel-2::FLP_D5] IV</i>	This study	

GW1380	<i>bqSi447[pBN181(unc-119(+)) Phsp16.41::FRT::mCh::his-58::FRT::gfp::dam]] II; bqSi508[pBN282(unc-119(+)) Pelt-2::FLP_D5]] IV; cec-4(ok3124) IV</i>	This study
GW1636	<i>cbp-1(gw3[3XFLAG-degron::cbp-1])III; cec-4(ok3124) I; gwl4[myo-3::RFP baf-1::GFP lacI let-858] X.; gwl4[myo-3::RFP baf-1::GFP lacI let-858] X.</i>	This study
GW1641	<i>gwl4[ges-1::3XFLAG-cbp-1::his-72, unc-119+] II; gwl4[myo-3::RFP baf-1::GFP lacI let-858] X; gwl39[baf-1::GFP-LacI::let-858 3'UTR; vit-5::GFP] III; bqSi225[pBN34(unc-119(+)) Pemr-1::emr-1::mcherry]] IV; cec-4(ok3124) IV</i>	This study
GW1646	<i>gwl4[ges-1::3XFLAG-cbp-1::his-72, unc-119+] II; gwl4[myo-3::RFP baf-1::GFP lacI let-858] X; gwl39[baf-1::GFP-LacI::let-858 3'UTR; vit-5::GFP] III; bqSi225[pBN34(unc-119(+)) Pemr-1::emr-1::mcherry]] IV; cec-4(ok3124) IV; atf-8(tm294) V</i>	This study
GW1658	<i>gwl4[ges-1::3XFLAG-cbp-1::his-72, unc-119+] II; gwl4[myo-3::RFP baf-1::GFP lacI let-858] X; gwl39[baf-1::GFP-LacI::let-858 3'UTR; vit-5::GFP] III; bqSi225[pBN34(unc-119(+)) Pemr-1::emr-1::mcherry]] IV</i>	This study
XA6227	<i>mrg-1(tm1227)/qC1 dpy-19(e1259) glp-1(q339)[qls26] III.</i>	CGC

Table S3. Worm strains used in the study

This table lists all the strains used in the study with the detailed genotype and an indication of whether the strain was previously published or generated for this study.