

Table S1: Numbers of animals and nuclei analyzed for DNA content

Genotype CD Position	wild type		<i>glp-1</i>		<i>daf-2</i>		<i>rsk-1</i>	
	Larval (N=27)	Adult (N=26)	Larval (N=56)	Adult (N=34)	Larval (N=44)	Adult (N=33)	Larval (N=33)	Adult (N=35)
1	63	56	113	65	87	62	34	117
2	78	74	156	80	110	94	62	152
3	76	80	165	116	128	120	82	191
4	80	87	195	125	143	132	95	213
5	82	102	209	133	152	138	98	232
6	102	99	211	127	149	144	101	236
7	110	102	204	161	162	169	117	261
8	95	101	211	147	164	164	110	243
9	108	107	191	142	163	155	111	275
10	112	111	169	147	175	154	112	255
11	104	103	134	143	175	152	113	243
12	105	93	80	136	168	165	115	203
13	76	99	30	119	155	164	105	190
14	75	94	14	88	143	144	107	126
15	75	89	8	51	111	130	96	81
16	40	85	0	41	95	124	89	66
17	34	86	0	29	67	104	48	44
18	31	57	0	21	51	74	30	24
19	23	72	0	19	42	44	22	5
20	20	68	0	6	29	30	11	0
21	21	62	0	3	9	21	7	0
22	10	36	0	0	8	14	2	0
23	4	33	0	0	1	14	0	0
24	0	24	0	0	0	11	0	0
25	0	20	0	0	0	7	0	0
Total (n)	1,524	1,940	2090	1899	2,487	2,530	1,667	3,157

N = number of animals

n = number of nuclei

Table S2: Proportions of nuclei with Low, Mid and High DNA Content, pooled from all animals by CD

	Distance in CD from distal tip	Larval				Adult			
		Low	Mid	High	n	Low	Mid	High	n
wild type	1	33.33	41.27	25.40	63	42.86	41.07	16.07	56
	2	32.05	47.44	20.51	78	33.78	50.00	16.22	74
	3	44.74	27.63	27.63	76	28.75	53.75	17.50	80
	4	33.75	40.00	26.25	80	21.84	58.62	19.54	87
	5	20.73	46.34	32.93	82	37.25	43.14	19.61	102
	6	29.41	43.14	27.45	102	19.19	55.56	25.25	99
	7	30.00	49.09	20.91	110	24.51	39.22	36.27	102
	8	32.63	48.42	18.95	95	14.85	54.46	30.69	101
	9	31.48	42.59	25.93	108	18.69	49.53	31.78	107
	10	34.82	36.61	28.57	112	20.72	47.75	31.53	111
	11	34.62	41.35	24.04	104	18.45	47.57	33.98	103
	12	30.48	39.05	30.48	105	26.88	39.78	33.33	93
	13	31.58	40.79	27.63	76	15.15	56.57	28.28	99
	14	28.00	38.67	33.33	75	9.57	60.64	29.79	94
	15	22.67	40.00	37.33	75	19.10	42.70	38.20	89
	16	32.50	32.50	35.00	40	12.94	38.82	48.24	85
	17	32.35	35.29	32.35	34	20.93	33.72	45.35	86
	18	45.16	51.61	3.23	31	19.30	36.84	43.86	57
	19	26.09	60.87	13.04	23	19.44	41.67	38.89	72
	20	35.00	50.00	15.00	20	20.59	42.65	36.76	68
	21	33.33	52.38	14.29	21	11.29	33.87	54.84	62
	22	0.00	0.00	0.00	10	25.00	27.78	47.22	36
	23	0.00	0.00	0.00	4	15.15	24.24	60.61	33
	24	0.00	0.00	0.00	0	4.17	37.50	58.33	24
	25	0.00	0.00	0.00	0	10.00	25.00	65.00	20
<i>glp-1</i>	1	38.05	48.67	13.27	113	47.69	32.31	20.00	65
	2	28.85	44.87	26.28	156	37.50	46.25	16.25	80
	3	26.67	51.52	21.82	165	41.38	42.24	16.38	116
	4	30.26	44.62	25.13	195	30.40	48.80	20.80	125
	5	27.27	49.28	23.44	209	33.08	46.62	20.30	133
	6	28.91	48.34	22.75	211	29.92	51.18	18.90	127
	7	34.31	47.06	18.63	204	32.30	40.99	26.71	161
	8	27.01	49.29	23.70	211	29.93	50.34	19.73	147

	9	26.70	50.79	22.51	191	21.83	49.30	28.87	142
	10	18.93	50.89	30.18	169	17.01	44.90	38.10	147
	11	26.87	35.82	37.31	134	18.18	49.65	32.17	143
	12	20.00	45.00	35.00	80	21.32	42.65	36.03	136
	13	23.33	53.33	23.33	30	15.13	47.90	36.97	119
	14	21.43	57.14	21.43	14	10.23	40.91	48.86	88
	15	0.00	0.00	0.00	8	17.65	33.33	49.02	51
	16	0.00	0.00	0.00	0	7.32	43.90	48.78	41
	17	0.00	0.00	0.00	0	27.59	37.93	34.48	29
	18	0.00	0.00	0.00	0	23.81	47.62	28.57	21
	19	0.00	0.00	0.00	0	15.79	47.37	36.84	19
	20	0.00	0.00	0.00	0	0.00	0.00	0.00	6
	21	0.00	0.00	0.00	0	0.00	0.00	0.00	3
	22	0.00	0.00	0.00	0	0.00	0.00	0.00	0
	23	0.00	0.00	0.00	0	0.00	0.00	0.00	0
	24	0.00	0.00	0.00	0	0.00	0.00	0.00	0
	25	0.00	0.00	0.00	0	0.00	0.00	0.00	0
<i>daf-2</i>	1	26.44	51.72	21.84	87	37.10	41.94	20.97	62
	2	20.91	48.18	30.91	110	35.11	35.11	29.79	94
	3	17.19	44.53	38.28	128	26.67	55.00	18.33	120
	4	16.78	44.76	38.46	143	20.45	52.27	27.27	132
	5	19.08	42.11	38.82	152	23.19	44.93	31.88	138
	6	18.79	47.65	33.56	149	21.53	41.67	36.81	144
	7	14.20	45.06	40.74	162	23.67	40.24	36.09	169
	8	23.17	43.29	33.54	164	25.00	48.17	26.83	164
	9	26.38	44.79	28.83	163	19.35	42.58	38.06	155
	10	19.43	46.86	33.71	175	20.13	40.26	39.61	154
	11	18.86	40.00	41.14	175	15.13	49.34	35.53	152
	12	19.05	43.45	37.50	168	17.58	46.06	36.36	165
	13	18.71	38.06	43.23	155	23.78	46.34	29.88	164
	14	18.88	45.45	35.66	143	12.50	49.31	38.19	144
	15	21.62	49.55	28.83	111	12.31	44.62	43.08	130
	16	28.42	26.32	45.26	95	17.74	47.58	34.68	124
	17	13.43	37.31	49.25	67	12.50	44.23	43.27	104
	18	25.49	27.45	47.06	51	13.51	48.65	37.84	74
	19	16.67	45.24	38.10	42	22.73	45.45	31.82	44
	20	24.14	37.93	37.93	29	16.67	36.67	46.67	30
	21	0.00	0.00	0.00	9	33.33	23.81	42.86	21
	22	0.00	0.00	0.00	8	42.86	28.57	28.57	14
	23	0.00	0.00	0.00	1	14.29	28.57	57.14	14
	24	0.00	0.00	0.00	0	27.27	27.27	45.45	11

	25	0.00	0.00	0.00	0	0.00	0.00	0.00	7
<i>rsk-1</i>	1	8.82	35.29	55.88	34	40.82	32.65	26.53	117
	2	17.74	33.87	48.39	62	35.09	43.86	21.05	152
	3	23.17	37.80	39.02	82	44.64	26.79	28.57	191
	4	33.68	27.37	38.95	95	33.33	41.67	25.00	213
	5	23.47	36.73	39.80	98	17.86	53.57	28.57	232
	6	20.79	34.65	44.55	101	24.64	49.28	26.09	236
	7	17.95	43.59	38.46	117	26.39	52.78	20.83	261
	8	20.91	41.82	37.27	110	22.39	56.72	20.90	243
	9	25.23	33.33	41.44	111	26.67	46.67	26.67	275
	10	25.89	32.14	41.96	112	31.58	40.79	27.63	255
	11	23.01	44.25	32.74	113	30.00	51.43	18.57	243
	12	20.00	36.52	43.48	115	29.69	37.50	32.81	203
	13	19.05	29.52	51.43	105	27.91	37.21	34.88	190
	14	25.23	38.32	36.45	107	27.27	40.91	31.82	126
	15	21.88	33.33	44.79	96	24.32	37.84	37.84	81
	16	23.60	28.09	48.31	89	23.53	41.18	35.29	66
	17	27.08	25.00	47.92	48	36.36	36.36	27.27	44
	18	26.67	33.33	40.00	30	45.45	45.45	9.09	24
	19	13.64	45.45	40.91	22	0.00	0.00	0.00	5
	20	27.27	18.18	54.55	11	0.00	0.00	0.00	0
	21	0.00	0.00	0.00	7	0.00	0.00	0.00	0
	22	0.00	0.00	0.00	2	0.00	0.00	0.00	0
	23	0.00	0.00	0.00	0	0.00	0.00	0.00	0
	24	0.00	0.00	0.00	0	0.00	0.00	0.00	0
	25	0.00	0.00	0.00	0	0.00	0.00	0.00	0

Table S3: Proportions of nuclei with Low, Mid and High DNA Content, averaged per animal per CD

		Larval			Adult		
Genotype	Distance in CD from distal tip	Low	Mid	High	Low	Mid	High
wild type	1	33.33	51.85	14.81	30.77	57.69	11.54
	2	33.33	48.15	18.52	34.62	50.00	15.38
	3	34.62	46.15	19.23	30.77	61.54	7.69
	4	22.22	51.85	25.93	8.00	76.00	16.00
	5	11.11	62.96	25.93	24.00	76.00	0.00
	6	23.08	57.69	19.23	0.00	88.46	11.54
	7	22.22	59.26	18.52	4.17	70.83	25.00
	8	15.38	80.77	3.85	3.85	65.38	30.77
	9	23.08	69.23	7.69	12.00	60.00	28.00
	10	15.38	69.23	15.38	7.69	69.23	23.08
	11	20.83	66.67	12.50	3.85	69.23	26.92
	12	13.64	72.73	13.64	25.00	62.50	12.50
	13	0.00	82.35	17.65	4.00	72.00	24.00
	14	6.25	56.25	37.50	0.00	82.61	17.39
	15	20.00	46.67	33.33	9.09	59.09	31.82
	16	16.67	58.33	25.00	5.26	52.63	42.11
	17	22.22	44.44	33.33	5.26	63.16	31.58
	18	33.33	50.00	16.67	0.00	71.43	28.57
	19	25.00	75.00	0.00	7.14	64.29	28.57
	20	50.00	25.00	25.00	8.33	50.00	41.67
	21	0.00	100.00	0.00	0.00	41.67	58.33
	22	33.33	33.33	33.33	0.00	85.71	14.29
	23	0.00	100.00	0.00	0.00	33.33	66.67
	24	0.00	0.00	0.00	0.00	16.67	83.33
	25	0.00	0.00	0.00	0.00	25.00	75.00
<i>glp-1</i>	1	33.93	55.36	10.71	44.12	32.35	23.53
	2	19.64	57.14	23.21	31.25	53.13	15.63
	3	23.64	58.18	18.18	29.41	67.65	2.94
	4	19.64	66.07	14.29	17.65	70.59	11.76
	5	19.64	71.43	8.93	18.18	72.73	9.09
	6	20.00	63.64	16.36	21.21	63.64	15.15
	7	18.52	68.52	12.96	17.65	76.47	5.88
	8	13.73	74.51	11.76	11.76	73.53	14.71
	9	10.87	80.43	8.70	8.82	73.53	17.65

	10	10.00	75.00	15.00	2.94	76.47	20.59
	11	8.57	60.00	31.43	3.13	75.00	21.88
	12	4.17	62.50	33.33	6.25	71.88	21.88
	13	8.33	83.33	8.33	6.45	54.84	38.71
	14	25.00	75.00	0.00	0.00	53.85	46.15
	15	0.00	100.00	0.00	5.56	44.44	50.00
	16	0.00	0.00	0.00	7.69	30.77	61.54
	17	0.00	0.00	0.00	0.00	66.67	33.33
	18	0.00	0.00	0.00	0.00	50.00	50.00
	19	0.00	0.00	0.00	0.00	80.00	20.00
	20	0.00	0.00	0.00	0.00	0.00	100.00
	21	0.00	0.00	0.00	0.00	0.00	100.00
	22	0.00	0.00	0.00	0.00	0.00	0.00
	23	0.00	0.00	0.00	0.00	0.00	0.00
	24	0.00	0.00	0.00	0.00	0.00	0.00
	25	0.00	0.00	0.00	0.00	0.00	0.00
<i>daf-2</i>	1	27.27	56.82	15.91	36.36	54.55	9.09
	2	16.28	58.14	25.58	21.88	59.38	18.75
	3	11.63	62.79	25.58	18.18	69.70	12.12
	4	6.82	63.64	29.55	6.06	69.70	24.24
	5	6.98	60.47	32.56	9.09	63.64	27.27
	6	6.82	63.64	29.55	6.06	66.67	27.27
	7	4.55	70.45	25.00	3.03	69.70	27.27
	8	6.82	79.55	13.64	3.13	78.13	18.75
	9	9.09	72.73	18.18	6.25	62.50	31.25
	10	0.00	79.07	20.93	3.13	68.75	28.13
	11	6.98	60.47	32.56	0.00	70.97	29.03
	12	2.44	70.73	26.83	6.45	64.52	29.03
	13	5.26	52.63	42.11	0.00	80.65	19.35
	14	3.13	71.88	25.00	3.33	60.00	36.67
	15	3.70	85.19	11.11	0.00	59.26	40.74
	16	4.76	52.38	42.86	0.00	75.00	25.00
	17	0.00	53.33	46.67	0.00	60.87	39.13
	18	0.00	50.00	50.00	0.00	66.67	33.33
	19	0.00	66.67	33.33	20.00	40.00	40.00
	20	14.29	71.43	14.29	0.00	57.14	42.86
	21	0.00	75.00	25.00	20.00	40.00	40.00
	22	50.00	0.00	50.00	0.00	100.00	0.00
	23	0.00	100.00	0.00	0.00	50.00	50.00
	24	0.00	0.00	0.00	0.00	100.00	0.00
	25	0.00	0.00	0.00	0.00	100.00	0.00

<i>rsks-1</i>	1	9.09	36.36	54.55	29.41	44.12	26.47
	2	12.50	37.50	50.00	20.59	55.88	23.53
	3	18.18	45.45	36.36	14.29	62.86	22.86
	4	12.12	57.58	30.30	5.71	71.43	22.86
	5	12.12	51.52	36.36	11.43	54.29	34.29
	6	6.06	54.55	39.39	8.57	65.71	25.71
	7	6.06	63.64	30.30	17.14	57.14	25.71
	8	9.09	54.55	36.36	17.14	62.86	20.00
	9	12.12	45.45	42.42	0.00	65.71	34.29
	10	21.21	51.52	27.27	5.71	71.43	22.86
	11	12.12	57.58	30.30	6.06	57.58	36.36
	12	9.38	56.25	34.38	3.57	50.00	46.43
	13	0.00	51.61	48.39	3.70	51.85	44.44
	14	15.15	54.55	30.30	5.00	65.00	30.00
	15	10.34	41.38	48.28	0.00	41.67	58.33
	16	14.81	40.74	44.44	0.00	50.00	50.00
	17	16.67	44.44	38.89	0.00	37.50	62.50
	18	26.67	33.33	40.00	20.00	0.00	80.00
	19	10.00	40.00	50.00	0.00	50.00	50.00
	20	33.33	0.00	66.67	0.00	0.00	0.00
	21	0.00	50.00	50.00	0.00	0.00	0.00
	22	0.00	50.00	50.00	0.00	0.00	0.00
	23	0.00	0.00	0.00	0.00	0.00	0.00
	24	0.00	0.00	0.00	0.00	0.00	0.00
	25	0.00	0.00	0.00	0.00	0.00	0.00

Table S4: Summary of nuclei analyzed for DNA content in time course post-ARD

CD Position	0 hr (N=12)	6 hr (N=11)	24 hr (N=8)	48 hr (N=11)	72 hr (N=10)	96 hr (N=7)
1	23	24	16	13	41	45
2	43	28	34	15	66	52
3	44	39	27	18	67	58
4	51	37	37	16	72	69
5	48	43	39	27	77	70
6	49	44	44	31	69	71
7	44	41	44	30	71	68
8	30	44	31	34	71	64
9	23	42	28	37	80	65
10	23	41	33	30	78	65
11	14	40	24	42	64	57
12	9	35	24	41	64	49
13	6	31	19	43	49	39
14	1	35	11	33	48	41
15	0	17	8	30	38	37
16	0	18	6	16	29	37
17	0	10	2	6	21	27
18	0	7	0	3	11	29
19	0	1	0	7	5	24
20	0	1	0	7	0	5
21	0	1	0	5	0	0
22	0	0	0	2	0	0
23	0	0	0	0	0	0
24	0	0	0	0	0	0
25	0	0	0	0	0	0
Total (n)	408	579	427	486	1021	972

N = number of animals

n = number of nuclei

Table S5: Proportions of nuclei with Low, Mid and High DNA Content, averaged per animal per CD

Post-ARD Hours Re-fed	Distance in CD from distal tip	N	Low	Mid	High
0	≤5	12	0.00	66.67	33.33
	6 to 10	12	0.00	33.33	66.67
	11 to 15	3	0.00	33.33	66.67
	>15	0	0.00	0.00	0.00
6	≤5	11	0.00	63.64	36.36
	6 to 10	11	0.00	54.55	45.45
	11 to 15	10	0.00	40.00	60.00
	>15	5	20.00	40.00	40.00
24	≤5	8	0.00	75.00	25.00
	6 to 10	8	0.00	62.50	37.50
	11 to 15	7	0.00	57.14	42.86
	>15	1	0.00	100.00	0.00
48	≤5	11	9.09	72.73	18.18
	6 to 10	11	9.09	72.73	18.18
	11 to 15	10	10.00	50.00	40.00
	>15	5	20.00	40.00	40.00
72	≤5	10	0.00	70.00	30.00
	6 to 10	10	10.00	60.00	30.00
	11 to 15	10	10.00	60.00	30.00
	>15	5	0.00	40.00	60.00
96	≤5	7	14.29	71.43	14.29
	6 to 10	7	14.29	71.43	14.29
	11 to 15	7	42.86	57.14	0.00
	>15	5	0.00	80.00	20.00

N = number of animals

Table S6: Proportions of nuclei with Low, Mid and High DNA content, averaged per animal per CD

Genotype	Distance in CD from distal tip	Larval				Adult			
		N	Low	Mid	High	N	Low	Mid	High
wild type	≤5	27	22.22	62.96	14.81	26	23.08	73.08	3.85
	6 to 10	27	7.41	85.19	7.41	26	3.85	84.62	11.54
	11 to 15	24	8.33	83.33	8.33	26	3.85	80.77	15.38
	>15	12	16.67	66.67	16.67	19	0.00	63.16	36.84
<i>glp-1</i>	≤5	56	14.29	80.36	5.36	34	17.65	76.47	5.88
	6 to 10	55	5.45	87.27	7.27	34	2.94	88.24	8.82
	11 to 15	35	5.71	68.57	25.71	32	0.00	75.00	25.00
	>15	0	0.00	0.00	0.00	13	0.00	53.85	46.15
<i>daf-2</i>	≤5	44	6.82	70.45	22.73	33	9.09	78.79	12.12
	6 to 10	44	0.00	88.64	11.36	33	3.03	78.79	18.18
	11 to 15	44	2.27	77.27	20.45	31	0.00	64.52	35.48
	>15	21	4.76	57.14	38.10	24	0.00	75.00	25.00
<i>rsk-1</i>	≤5	33	12.12	51.52	36.36	35	8.57	68.57	22.86
	6 to 10	33	6.06	60.61	33.33	35	5.71	74.29	20.00
	11 to 15	33	0.00	72.73	27.27	33	0.00	60.61	39.39
	>15	28	10.71	46.43	42.86	8	0.00	37.50	62.50

N = number of animals

Table S7: Odds ratios and p-values for DNA content of nuclei in regions “CD 6 to 10, 11 to 15, and >15” relative to region “CD ≤ 5” separated by age and genotype

Model				Distance in CD from the distal tip			
Group	Genotype	Age		≤5	6 to10	11 to 15	>15
1	wild type	Larval	Odds Ratio	1	0.89	1.04	0.98
			p-value	ref	0.389	0.783	0.943
		Adult	Odds Ratio	1	1.95	2.06	3.43
			p-value	ref	<0.0001	<0.0001	<0.0001
3	<i>glp-1</i>	Larval	Odds Ratio	1	1.11	1.95	na
			p-value	ref	0.319	<0.0001	na
		Adult	Odds Ratio	1	1.51	2.61	3.75
			p-value	ref	<0.0001	<0.0001	<0.0001
5	<i>daf-2</i>	Larval	Odds Ratio	1	0.98	1.13	1.66
			p-value	ref	0.82	0.298	0.006
		Adult	Odds Ratio	1	1.45	1.78	2.18
			p-value	ref	0.001	<0.0001	<0.0001
7	<i>rsks-1</i>	Larval	Odds Ratio	1	0.97	0.99	1.07
			p-value	ref	0.851	0.951	0.768
		Adult	Odds Ratio	1	0.93	1.5	2.24
			p-value	ref	0.438	0.002	0.002

Table S8: Odd ratios and 95% confidence interval (CI) comparing DNA content of germ cells upon post-ARD re-feeding

		Odds Ratio	95% CI
CD position	≤5	1	
	6 to 10	1.04	0.90-1.21
	11 to 15	1.22	0.99-1.49
	>15	2.39	1.63-3.38
Hours	0	1	
	6	0.79	0.42-1.51
	24	0.94	0.47-1.88
	48	0.45	0.24-0.85
	72	0.56	0.30-1.06
	96	0.36	0.18-0.74