

Table S4: Paralysis of *C. elegans* expressing muscle polyglutamine Q35 with or without muscle KIN-19

Experiment	Strain	Day 6			Day 7			Day 8		
		Number of animals (n)	% paralyzed	P-value	Number of animals (n)	% paralyzed	P-value	Number of animals (n)	% paralyzed	P-value
1	KIN-19-tagRFP + Q35	129	41.9	0.0003	123	55.3	0.005	104	72.1	0.19
	tagRFP + Q35	106	18.9		96	35.4		90	62.2	
2*	KIN-19-tagRFP + Q35	66	68.2	<0.0001	65	76.9	<0.0001	55	85.5	0.001
	tagRFP + Q35	76	25.0		73	31.5		69	56.5	
3	KIN-19-tagRFP + Q35	120	35.8	0.001	104	72.1	0.004	87	73.6	0.55
	tagRFP + Q35	94	14.9		76	50.0		71	78.9	
4#	KIN-19-tagRFP + Q35	104	51.9	0.108						
	tagRFP + Q35	61	37.7							
5#	KIN-19-tagRFP + Q35	98	33.7	0.9187						
	tagRFP + Q35	94	33.0							
6	KIN-19-tagRFP + Q35	143	18.9	<0.0001	134	55.2	<0.0001	130	87.7	0.13
	tagRFP + Q35	123	1.6		113	21.2		107	63.6	
	Q35 alone	142	0.7		129	27.1		122	82.8	

The assay was done in a blind fashion in which the identity of the samples was concealed.

(*): Animals were maintained at 15°C until L4 stage and then transferred to 20°C. All other experiments were continuously kept at 20°C.

(#): Between the times we performed experiments 3 and 6, we carried out two experiments that showed no difference in paralysis between the experimental and control animals. We noted that the paralysis in the control animals was higher than average, which could explain why we saw no difference. However it remains unclear which experimental variable could account for these results. Furthermore, variability in the phenotype of polyglutamine-repeat transgenics has been previously reported (T. Gidalevitz, A. Ben-Zvi, K. H. Ho, H. R. Brignull, R. I. Morimoto, *Science* **311**, 1471-4 (Mar 10, 2006)).