

Name used in text	Strain name	Genotype	AddGene plasmid	References	Notes	Figure(s) used
	Wild-type N2 (Bristol)			Fatt and Dougherty 1963		Figures 1, 2, 3, 4
	LBV001 LBV001	unknown			EMS screen, backcrossed 4x	referenced in text
	LBV002 LBV002	<i>nstp-3(ejd002[F48V])</i>			EMS screen, backcrossed 4x	referenced in text
	LBV003 LBV003	<i>str-217(ejd003[P314S])</i>			EMS screen, backcrossed 4x	Figure 1h and Figure 2d
	LBV003 rescue LBV004	<i>str-217(ejd003); ejdEx1[pLV001(Pstr-217::str-217::SL2::GFP)]</i>	pLV001			Figure 2d
	ewlR73 ewlR73	<i>str-217(N2)</i>		Doroszuk 2009	a chrV:~14.0-18.6 Mb	Figure 2b
	ewlR74 ewlR74	<i>str-217(WBVar02076179)</i>		Doroszuk 2009	CB4856>N2	Figure 2b-c
	ewlR74 rescue LBV009	<i>str-217(WBVar02076179); ejdEx1[pLV001(Pstr-217::str-217::SL2::GFP)]</i>	pLV001		chrV:~17.4-21 Mb	Figure 2c
	ewlR76 ewlR76	<i>str-217(N2)</i>		Doroszuk 2009	CB4856>N2	Figure 2b
	Hawaiian CB4856			Hodgkin and Doniach 1997		Figure 2b
	str-217/- LBV005	<i>str-217(ejd001)</i>	(pJA42, pDD162, pLV002)		CRISPR-Cas9-induced lesion	Figure 2d, 3b-f, 4d and e
	str-217/- rescue LBV006	<i>str-217(ejd001); ejdEx2[pLV002(Psrh-220::str-217::mCherry)]</i>	pLV003			Figure 2d, 3b-f
	ADL::TeTX CX12328	<i>kyEx343q[Psr-1(1kb)::TeTX::SL2::mCherry + coel::DsRed]</i>		Schiavo 1992		Figure 3b, 4f
	LBV007	<i>ejdEx3[pES01(Psrh-220::ReaChR)]</i>		Lin 2013	plasmid was gift from Elias Scheer, Bargmann lab	Figure 4h-l
	ADL::ReaChR					
	ADL::GCaMP CX16616	<i>mzmEx[Psre1::GCaMP5kopt + Psre-1::tagRFP]</i>		Jang 2017		Figure 3 c-f
	mutant ADL::GCaMP LBV008	<i>str-217(ejd001); mzmEx[Psre1::GCaMP5kopt + Psre-1::tagRFP]</i>				Figure 3c-f
	rescue ADL::GCaMP LBV009	<i>str-217(ejd001); mzmEx[Psre1::GCaMP5kopt + Psre-1::tagRFP]]; ejdEx2[Psrh-220::str-217::mCherry]</i>	pLV003			Figure 3 c-f
	AWC::GCaMP CX17256	<i>kyls722[Pstr-2::GCaMP5a]</i>			integrated by UV, backcrossed 4x	Extended data Figure 2
	str-217/-;	<i>str-217(ejd001); kyls722[Pstr-2::GCaMP5a]</i>				Extended data Figure 2
	AWC::GCaMP					
	Pptr10::myrRFP OS1907	<i>nsIs108(Pptr-10::myrRFP)</i>				