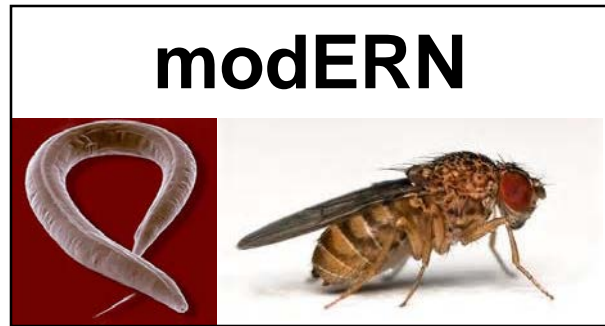


Reinke Lab Update



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Outline

- Summary of ChIP-seq progress
 - Completed datasets
 - Datasets in the pipeline
 - Worm pellets ready for ChIP/growth
 - ChIP'd factors for RNA-seq
- Summary of RNA-seq progress
 - Backcrossed deletion mutants
 - Deletion strains waiting for backcross
 - RNA isolated for sequencing
 - RNA isolation in progress and backcrossed strains waiting for RNA isolation

Sequencing data for 141 new datasets

33 Bridge	0 Y1Q1	0 Y1Q2	10 Y1Q3	22 Y1Q4	17 Y2Q1	11 Y2Q2	21 Y2Q3	15 Y2Q4	4 Y3Q1	5 Y3Q2	0 Y3Q3	3 Y3Q4	20 Pending
YL482_C06A8.2_YA			CS152_SMA-3_L2	OP418_DMD-4_LE	YL487_SNPC-4_YA	OP399_F22D6.2_YA	OP525_C04F5.9_L1	OP536_IRX-1_L1	OP56_ELT-2_L1	OP566_HLH-15_LE		OP560_POP-1_EE	OP62_LIN-11_LE
YL479_EFL-1_YA			AGK154_UNC-130_L4	OP312_LIR-3_L4	YL551_SNPC-4_YA	OP63_HLH-8_LE	OP484_NHR-90_YA	OP537_MXL-1_YA	OP56_ELT-2_L3	OP578_UNC-3_LE		OP659_UNC-120_ME	OP606_F52B5.7_YA
YL485_F08F3.9_YA			AGK541_UNC-130_YA	OP471_F13H6.1_L2	OP521_SPR-1_L4	OP201_PQM-1_LE	OP533_CEH-18_LE	OP538_HLH-12_YA	OP56_ELT-2_LE	OP562_AHR-1_LE		OP573_HND-1_EE	OP587_MADF-2_LE
YL497_T02C12.2_YA			OP509_ETS-4_L3	OP511_ZTF-11_L1	OP311_TBX-7_LE	OP154_PAG-3_LE	OP534_ZFP-2_L4	OP210_CEH-90_L1	OP443_Y53C12C.1_L1 E	OP558_LAG-1_LE			OP202_CEH-9_LE
YL478_EFL-1_YA			OP510_F37D6.2_L4	OP508_MADF-10_YA	OP485_LIN-40_YA	OP164_FAX-1_LE	OP487_ETS-7_EE	OP493_NPAX-4_LE		OP476_UNC-86_LE			OP636_TBX-9_YA
YL507_DPL-1_YA			OP388_LIM-6_LE	OP460_NHR-80_YA	OP517_SOX-4_L1	OP528_SNU-23_L1	OR3350_HIF-1_L4	OP541_COG-1_ME		OP68_TTX-3_LE			OP517_SOX-4_LE
OP462_RNT-1_L1			OP512_SWSN-7_L1	OP478_T07F8.4_YA	OP523_HLH-4_L1	OP532_Y116A8C.19_L1	OP489_NHR-232_LE	YL581_REC-8_YA					OP598_T26A5.8_YA
OP401_LSY-27_YA			OP159_TBX-2_LE	OP513_C08G9.2_LE	OP524_CEH-34_LE	B0035.1_XTL1186_YA	OP476_UNC-86_L1	YL576_HIM-1_L4/YA					OP605_F13C5.2_EE
OP474_ZK185.1_YA			OP159_TBX-2_L1	OP159 (L3)	OP55_MEC-3_LE	OP315_CEH-14_LE	QP0661_XND-1_YA	YL577_HIM-1_YA					OP615_Y22D7AL.16_LE
OP248_MES-2_L4			OP506_XBP-1_L1	GOU883_EGL-13_L1	OP518_NHR-48_L4	OP323_CEH-2_LE	OP494_ZTF-16_LE	OP100_FKH-4_L1					OP609_CHD-7_YA
JK1107_RPC-1_YA				YL529_LET-607_YA	YL557_WAGO-9_YA	OP496_ZTF-18_YA	OP252_DAO-5_L4	OP385_F55B11.4_YA					OP614_ZTF-3_YA
LW1254_SMA-9C2_L2				OP480_NHR-71_L1	YL563_REC-8_YA		OP502_ALY-2_EE	OP544_ZIP-5_LE					OP622_GMEB-2_LE
OP470_ZC204.2_L4				OP516_CEH-32_L4	OP529_F10B5.3_L4		RW10702_HLH-6_LE	OP539_NHR-85_L1					OP631_CEH-48_LE
OP358_CEU-2_L4				ZM8745_DAF-16_L4	OP522_DSC-1_L1		OP195_RBR-2_L4	OP543_SDZ-38_YA					OP620_CEH-36_EE
OP372_K09A11.1_LE				OP515_NHR-20_L1	OP383_F49E8.2_L4		RW10316_DIE-1_YA	TH184_HMG-11_L3					OP639_HAM-2_ME
OP398_DVE-1_LE				OP514_SPR-4_YA	OP520_REF-2_LE		OP78_FKH-6_LE						OP553_CEH-79_YA
OP398_DVE-1_L4				OP471_F13H6.1_LE	OP111_ELT-4_LE		RW10325_MES-4_YA						OP573_HND-1_YA
OP429_F23B12.7_YA				OP370_CEH-31_LE			OP488_SYD-9_LE						OP568_LSY-12_L3/L4
OP433_HLH-30_L4				OP463_NHR-102_L4			OP173_UNC-42_LE						OP563_CEBP-1_YA
OP433_HLH-30_LE				OP462_RNT-1_LE			OP465_NHR-179_YA						OP594_FKH-3_YA
OP391_MED-1_ME				OP481_NHR-47_L1			OP92_SDC-2_LE						
OP404_NFYA-1_YA				OP483_NHR-90_L1									
OP404_NFYA-1_L3				ZM7247_DAF-16_L4									
OP404_NFYA-1_EMB													
OP109_BLMF-1_L2													
OP354_ELT-1_EMB													
OP383_F49E8.2_YA													
OP33_NHR-25_L4													
OP405_ODD-2_LE													
OP154_PAG-3_L1													
OP312_LIR-3_L1													
OP477_NHR-43_L3													
N2_RPC-1_YA													

- 33 completed datasets for Bridge year (24 factors that missed the data freeze were sequenced at Stanford)
- 32 completed datasets for year 1
- 64 completed factors for year 2
- 12 completed factors for year 3
- In total, data for 128 new TFs

OP514_SPR-4 has a rearrangement
OP558_LAG-1 is ZTF-16

Completed factors for year 3 (12)

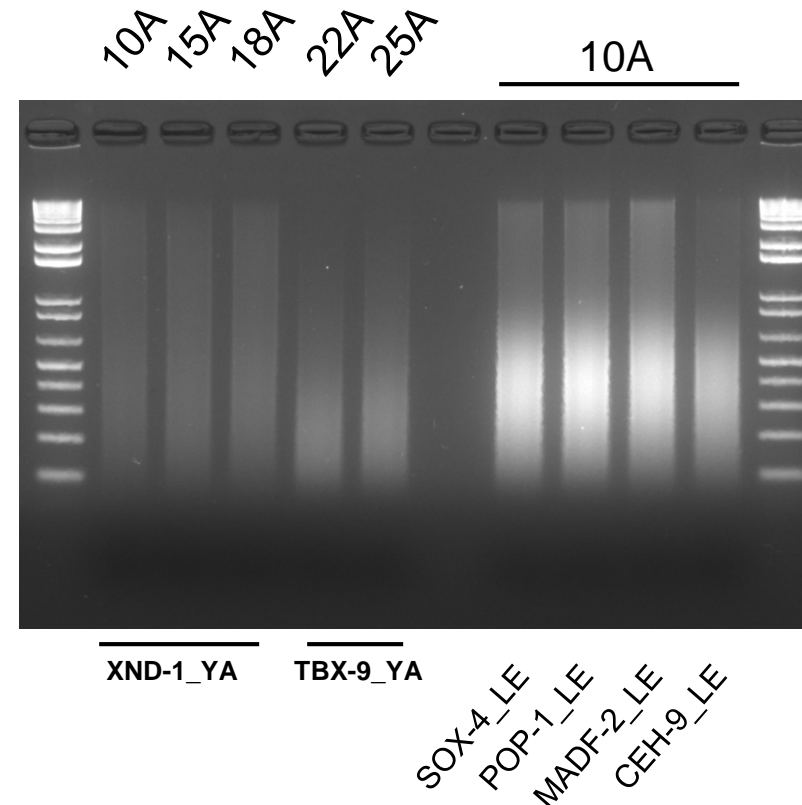
	Factor	Strain name	Stage
	ELT-2	OP56	L1
	ELT-2	OP56	L3
	ELT-2	OP56	LE
	Y53C12C.1	OP443	LE
*	HLH-15	OP566	LE
*	UNC-3	OP578	LE
	AHR-1	OP562	LE
*	UNC-86	OP476	LE
*	TTX-3	OP68	LE
	UNC-120	OP659	EM
	HND-1	OP573	EE
	POP-1	OP560	EE

Asterisk indicates factors for the RNA-seq project

Increasing sonication amplitude improves shearing

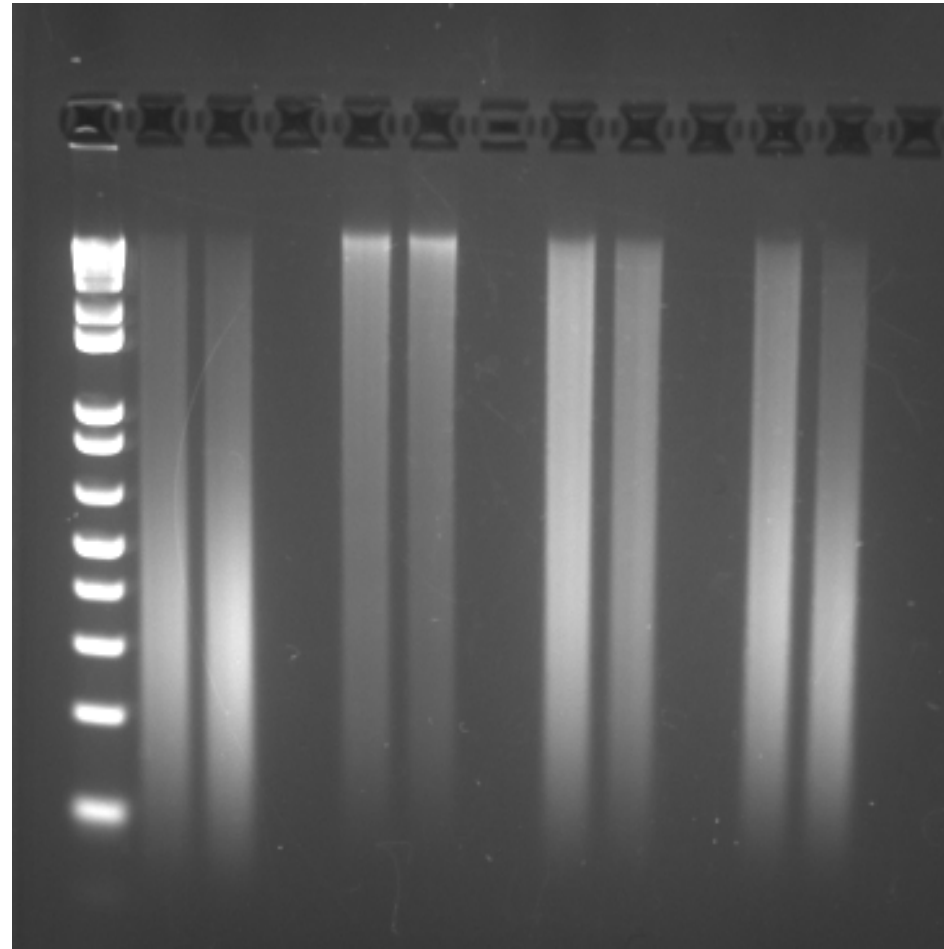
Previously used amplitude 10 on the sonicator

Tried higher amplitudes to achieve better DNA amounts and shearing



All embryo samples have more DNA, which could be due to the nucleus being easier to break open in embryos

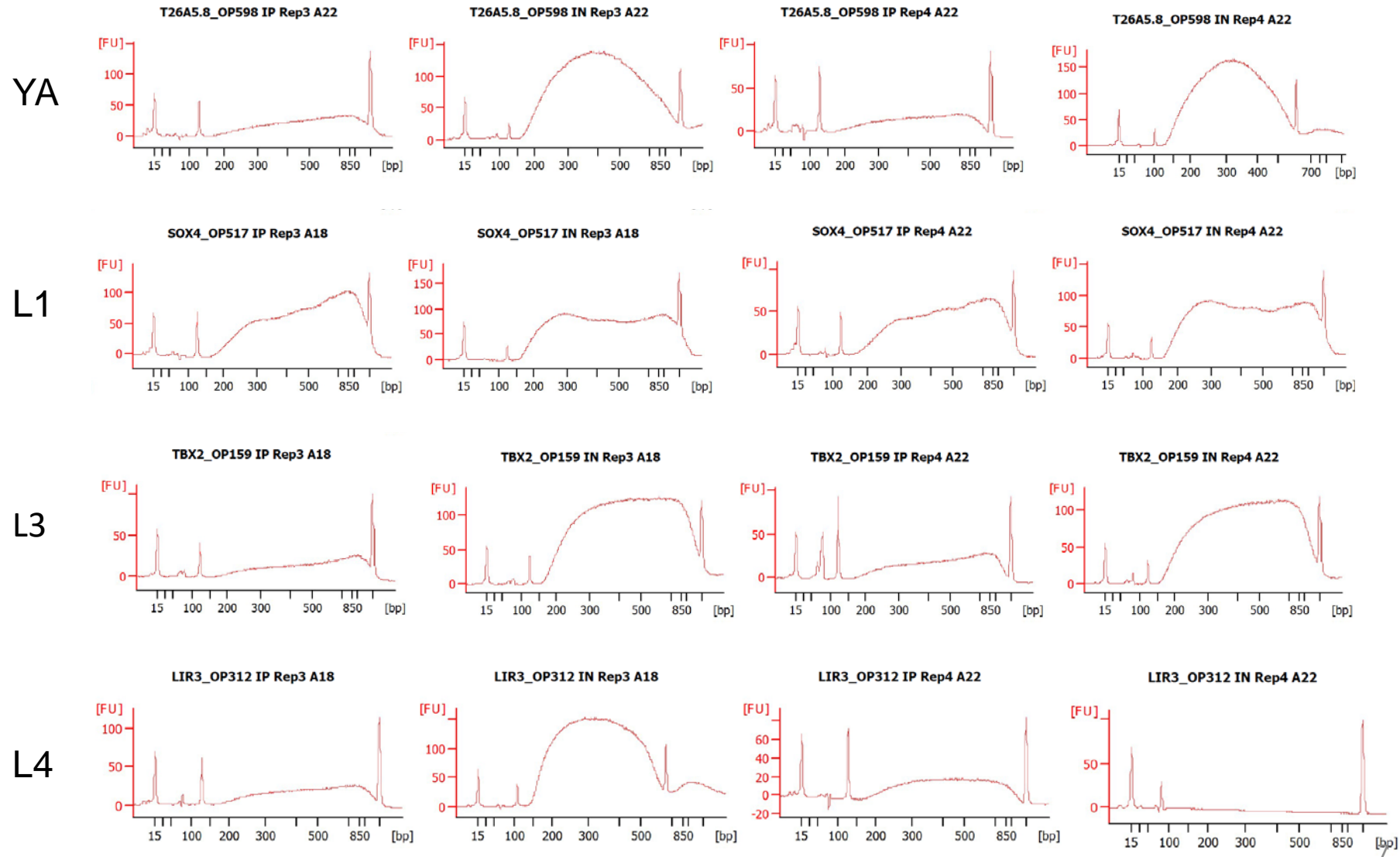
Tested higher amplitude in other stages



22A 22A 18A 22A 18A 22A 18A 22A
OP598_YA OP517_L1 OP159_L3 OP312_L4

Still waiting on sequencing results to compare to the datasets that passed using old conditions

Enrichment following library preparation



Still waiting on sequencing results to compare to the datasets that passed using old conditions

Repeated sonication on factors that failed

- Repeated sonication using 22A for failed factors that have additional frozen worm pellets

Factor	Strain name	Stage	Additional pellets	Status
T26A5.8	OP598	YA	YES	Waiting for sequencing
CEH-79	OP553	YA	YES	Rep 3 library failed, repeat IP
CEH-89	OP556	YA	NO	
F57C9.4	OP550	YA	NO	
CEH-1	OP571	L1	NO	
GEI-17	OP572	YA	NO	
SAEG-1	OP580	YA	NO	
LSY-12	OP568	L3/L4	YES	Waiting for sequencing
C33H5.17	OP570	L4	NO	
DPFF-1	OP579	YA	NO	
CEBP-1	OP563	YA	YES	Rep 4 library failed, repeat IP
ZTF-26	OP565	YA	NO	

Pending factors (27)

	Factor	Strain name	Stage	Status
	MADF-2	OP587	LE	Repeated rep2, sequencing poor, sending Monday
*	CEH-9	OP202	LE	Repeated rep1, sequencing poor, sending Monday
	CEH-79	OP553	YA	Rep3 library failed, repeated IP, sending Monday
	CEBP-1	OP563	YA	Rep4 library failed, repeated IP, sending Monday
	MEL-28	OP646	YA	Rep2 library failed, repeated IP, sending Monday
	CCCH-3	OP627	YA	Rep1 library failed, repeated IP, sending Monday
*	LIN-11	OP62	LE	Waiting for sequencing results
*	SOX-4	OP517	LE	Waiting for sequencing results
	TBX-9	OP636	YA	Waiting for sequencing results
	T26A5.8	OP598	YA	Waiting for sequencing results
	F13C5.2	OP605	EE	Waiting for sequencing results
*	Y22D7AL.16	OP615	LE	Waiting for sequencing results
*	GMEB-2	OP622	LE	Waiting for sequencing results
*	CEH-48	OP631	LE	Waiting for sequencing results
	CEH-36	OP620	EE	Waiting for sequencing results
*	HAM-2	OP639	ME	Waiting for sequencing results
	HND-1	OP573	YA	Waiting for sequencing results
	LSY-12	OP568	L3/L4	Waiting for sequencing results
	FKH-3	OP594	YA	Waiting for sequencing results
	F52B5.7	OP606	YA	Waiting for sequencing results
	CHD-7	OP609	YA	Waiting for sequencing results
	ZTF-3	OP614	YA	Waiting for sequencing results
	ZIM-3	OP581	YA	Waiting for sequencing results
	SEA-2	OP586	YA	Waiting for sequencing results
	TRA-4	OP640	EE	Sending to UC Monday
	B0310.2	OP642	EE	Sending to UC Monday
	MLS-2	OP645	ME	Sending to UC Monday

Asterisk indicates factors for the RNA-seq project

Pellets ready for ChIP (18)

Factor	Strain name	Stage
C34B4.2	OP552	L1
CEH-93	OP554	L1
NHR-111	OP569	L4
GEI-8	OP589	L4
ZIP-4	OP590	L1
CEH-88	OP593	L4
LPD-2	OP649	L1
SUP-37	OP611	L1
ATF-7	OP638	YA
HLH-17	OP643	L1
C28G1.4	OP630	YA
Y55F3AM.14	OP608	L2
DPFF-1	OP579	YA
B0261.1	OP662	YA
F10E7.11	OP658	YA
FKH-8	OP652	L1
ZTF-26	OP565	YA
BED-3	OP651	ME

Factors awaiting growth and collection

	Factor	Strain name	Stage
	HMBX-1	OP656	EE
	ATTF-2	OP657	EE
	HMG-4	OP660	EE
	MBL-1	OP664	L1
*	BAR-1	OP677	LE
	CEH-4	OP680	EE
*	CEH-24	OP673	LE
	R151.8	OP672	L4
	Y5F2A.4	OP682	L4
	ATHP-1	OP685	YA
*	MLS-1	OP686	LE
*	PHA-2	OP687	ME
	REPO-1	OP688	YA
*	DMD-10	OP689	LE

Asterisk indicates factors for the RNA-seq project

Summary of ChIP'd TFs for TF(RNAi/del)/RNA-seq

TFs with completed ChIP-seq data (36)

Deletion strain available (29)

CEH-30
FKH-10
MAB-5
PAX-1
LIM-6
RNT-1
MEC-3
ELT-4
TBX-7
CEH-34
CEH-14
CEH-2
FAX-1
PQM-1
PAG-3
UNC-42
HLH-6
CEH-18
FKH-6
ZIP-5
HLH-15
UNC-3

UNC-86
TTX-3
BLMP-1
CES-1
DVE-1
CEH-31
C08G9.2

RNAi clone available (7)

CEH-22
CEH-26
DMD-4
HLH-8
SDC-2
COG-1
SYD-9

Waiting for library/sequencing (7)

Deletion strain available

LIN-11
SOX-4
CEH-9
Y22D7AL.16
GMEB-2
CEH-48
HAM-2

Waiting for IP/Growth (5)

Deletion strain available

CEH-24
PHA-2
DMD-10

RNAi clone available

BAR-1
MLS-1

4X Backcrossed mutant strains with VC2010

Gene Name	Deletion Strains	Strains Available	GFP Strains	Embryo Chip	Backcross
ceh-30	ceh-30(n4289) X.	MT13544	OP120	Yes	4X
mab-5	mab-5(gk670) III.	VC1477	OP19/26/27	Yes	4X
ceh-2	ceh-2(ch4) I.	TB200	OP323	Yes	4X
mec-3	mec-3(gk1126) IV.	VC2396	OP55	Yes	4X
tbx-7	tbx-7(gk1033) III.	VC1976	OP311	Yes	4X
fkf-10	fkf-10(ok733) I.	RB884	OP337/DCC4025	Yes	4X
pqm-1	pqm-1(ok485) II.	RB711	OP201	Yes	4X
rnt-1	rnt-1(ok351) I.	VC200	OP462	Yes	4X
pag-3	pag-3(ok488) X.	VC369	OP154	Yes	4X
ceh-31	ceh-31 X.	tm239	OP370	Yes	4X
ceh-18	ceh-18 X.	tm6181	OP533	Yes	4X
ceh-14	ceh-14(ch3) X.	TB528	OP315	Yes	4X
lim-6	lim-6(nr2073) X.	OH110	OP388	Yes	4X
elt-4	elt-4(ca16) X.	JM124	OP111	Yes	4X
fax-1	fax-1(ok624) X.	RB812	OP164	Yes	4X
C08G9.2	C08G9.2 IV.	tm4339	OP513	Yes	4X
blmp-1	blmp-1 I.	tm548	OP109	Yes	4X
dve-1	dve-1 X.	tm4803	OP398	Yes	4X
ces-1	ces-1 I.	tm1036	OP174	Yes	4X
fkf-6	fkf-6 II.	tm439	OP78	Yes	4X
zip-5	zip-5(gk646)_V.	VC1392	OP544	Yes	4X
unc-42	unc-42 V.	tm5335	OP173	Yes	4X
lin-11	lin-11 I.	tm5323	OP62	Yes	4X
hlh-15	hlh-15 X.	tm1824	OP566	Yes	4X
ttx-3	ttx-3 X.	tm268	OP68	Yes	4X
unc-86	unc-86 III.	tm6459	OP476	Yes	4X
unc-3	unc-3 X.	tm4776	OP578	Yes	4X
ceh-9	ceh-9 I.	tm2747	OP202	Pending	4X
sox-4	sox-4(gk700) X.	VC1544	OP517	Pending	4X
eyg-1	eyg-1 (gk851) II.	VC1800	OP443	Pending	4X
ceh-24	ceh-24(cc539) V.	PD4588	OP673	Not yet	4X
ham-2	ham-2 X.	tm5501	OP639	Pending	2X
C52B9.2	C52B9.2 X.	tm413	No	No	2X
hlh-19	hlh-19 X.	tm3105	No	No	2X
F55B11.4	F55B11.4 IV.	tm4294	OP385	No expression	4X
npax-1	npax-1 II.	tm1367	OP626	Dauer express	2X
dac-1	dac-1(gk211) III.	VC392	OP188/189	Not available	4X
ZK337.2	ZK337.2 X.	tm706	OP355	No expression	4X
unc-55	unc-55 I.	tm3355	DCC4035	Not available	4X
ceh-33	ceh-33 V.	tm244	OP575	Cytoplasmic	4X
gei-3	gei-3 X.	tm4380	OP180	No expression	4X
unc-98	unc-98 X.	tm601	OP85	Cytoplasmic	4X
C34D1.1	dmd-10(gk1131) V.	VC2341	OP689	Dauer express	2X

38 Deletion strains
with 4X backcrossed,
30 of them have been chipped.

5 Deletion strains
with 2X backcrossed,
1 of them have been chipped.

Deletion strains waiting for backcross and deletion strains to order

Gene Name	Deletion Strains	Strains Available	GFP Strains	Embryos Chip	Backcross
Y22D7AL.16	Y22D7AL.16 III.	tm4265	OP615	Yes	In progress
F53H4.5	F53H4.5 X.	tm6823	OP622	Yes	In progress
ham-2	ham-2 X.	tm5501	OP639	Yes	In progress
ceh-48	C17H12.9(ok1395) IV.	RB1296	OP631	Pending	To order
M03D4.4	M03D4.4 IV.	tm559	OP696	Not yet	To order

25 RNA isolated for 6-timepoints for sequencing

Y2Q3	Y2Q4	Y3Q1	Y3Q2	Y3Q3	Y3Q4
VC1477_mab-5	TB200_ceh-2	RB812_fax-1	tm4339_C08G9.2	tm1824_hlh-15	tm268_ttx-3
MT13544_ceh-30	VC2396_mec-3	tm548_blmp-1	tm6181_ceh-18	tm4776_unc-3	tm6459_unc-86
	RB884_fkh-10	tm1036_ces-1	VC369_pag-3	tm439_fkh-6(Repeat)	
	VC1976_tbx-7	tm439_fkh-6	tm239_ceh-31		
	RB711_pqm-1		TB528_ceh-14		
	VC200_rnt-1		JM124_elt-4		
			tm4803_elt-4		
			OH110_lim-6		

RNA isolation in progress and
backcrossed strains waiting for RNA isolation

Gene Name	Strains Available	GFP Strains	Embryo Chip	Backcross	RNA Isolation
Y53C12C.1	VC1800	OP443	Yes	4X	In progress
ceh-9	tm2747	OP202	Yes	4X	Waiting
sox-4	VC1544	OP517	Yes	4X	Waiting