

S3 Data. Primers.

Primers to genotype mutant strains

Gene (allele)	Mutation	Sequences
<i>lag-1(q385)</i>	G>A substitution Nonsense mutation	fwd tgaaagtttggttgagcaacc rev ttcattctggagcgaatcc
<i>lag-1(om13)</i>	G>A substitution Missense mutation	fwd tctctcaacttcacaaatgtgc rev gaacaatgaagactctctcacttc
<i>rff-3(pk1426)</i>	3015bp deletion	fwd WT/MUT tccgagttcgcacatcaagttcac rev WT agacgaaatccggcatgatcc rev Mut cactcccgcgtgttcaaattcttc
<i>lim-4(yz12)</i>	296bp deletion	fwd WT tcaaccgggacagtaatccg fwd WT/MUT gcgatcgactattcaggcg rev WT/MUT tccggaattgcatcttccacg
<i>daf-19(m86)</i>	G>A substitution Nonsense mutation	fwd cagtattcaacaacatgcag rev gaagatacaacatgtttcgg
<i>daf-12(sa204)</i>	G>A substitution Missense mutation	fwd gatttggttatttctagcatc rev aacatagcaaattatagggg
<i>lin-12(n941)</i>	CC>RR substitution Missense mutation	fwd ttccaatcgaagatcacaccga rev tgaggaattctctgtgaacagg
<i>glp-1(q46)</i>	C>T substitution Nonsense mutation	fwd caacgaaagtgtatggatcttgcttc rev cctcgtctttcaatacaatgtttccg
<i>sel-8(ok387)</i>	979bp deletion	fwd WT/MUTctgaaaattttgtccacttttctatttcgc rev WT ccatataagccccatatttcagatgc rev WT/MUT aagaaacagtttcgatgacaccc
<i>glp-1(e2144)</i>	C>T substitution Missense mutation	fwd ccaataccaagagacactgtagcg rev tgacaacagcctcatgaaggg
<i>unc-43(n498)</i>	C>T substitution Missense mutation (gain of function allele)	fwd gacaattccacgctgatggc rev ataaaaccacgggcttcgag
<i>dyf-1(yz66)</i>	168bp deletion	fwd ttacctgaaaagcttctcaactgc rev tccattccacaagaaacgttgc
<i>che-11(e1810)</i>	G>A substitution Nonsense mutation	fwd gtttgatagctttgagcattcgg rev aatgaagtgtgcagctttggc
<i>tir-1(yz68)</i>	C>T substitution Missense mutation (gain of function allele)	fwd actgacgtgattgaccatcatcc rev caaccttcgagccattcttcg

Primers for cloning of promoter sequences in pPD95.75

Cloned region	Sequence
tph-1prom17	fwd gagagactgcagggtcatttattctcc rev gagagaggatccacaatctaataatccggag
tph-1prom2	fwd gagagactgcaggtagtaagctccgatgcgttc rev gagagaggatccatgattgaagagagcaatgctacc
cat-1prom37	fwd gagagaggatccgacatacctcttctccaag rev gagagactgcaggcataaataataatcaaatc
cat-1prom14	fwd gagagaggatccaagacaatttctaacagtagatggg rev gagagactgcagacgtaacgcagtttcttcaag
mod-5prom8	fwd gagagactgcagaataaattaattgaattttcaaaacaagtt rev gagagaggatccttatctgatattttctcacctgc
SCAN#1 tph-1prom32	fwd agcttttttttttttttttttacggaaccatgacagcaaaaataatagagtggcgctt attcgactcatttcgtttttttctccggatattagattgt rev ctagaacaatctaataatccggagaaaaaaaaaacgaaatgagtcgaataaggcgc cactctattttttgctgcatggttccgtaaaaaaaaaaaaaaaaaaaaa
SCAN#2 tph-1prom33	fwd agcttggctcatttattctcccacggttttttttttttttaaatagagtggcgcttattc gactcatttcggttttttttctccggatattagattgt rev ctagaacaatctaataatccggagaaaaaaaaaacgaaatgagtcgaataaggcgc ccactctatttaaaaaaaaaaaaaaaaaaaaaaaaaaacgtgggagaataaatgagcca
SCAN#3 tph-1prom34	fwd agcttggctcatttattctcccacggaaccatgacagcaaaaattttttttttttttt ttcgactcatttcggttttttttctccggatattagattgt rev ctagaacaatctaataatccggagaaaaaaaaaacgaaatgagtcgaaaaaaaaa aaaaaaaaaaaaaaaaattttgctgcatggttccgtaggagaataaatgagcca
SCAN#4 tph-1prom35	fwd agcttggctcatttattctcccacggaaccatgacagcaaaaataatagagtgg cgcttatttttttttttttttttctccggatattagattgt rev ctagaacaatctaataatccggagaaaaaaaaaaaaaaaaaaaaaaaaataaggcgc ccactctattttttgctgcatggttccgtaggagaataaatgagcca
SCAN#5 tph-1prom36	fwd agcttggctcatttattctcccacggaaccatgacagcaaaaataatagagtgg cgcttatttcgactcatttcggttttttttttttttttttttttttttttttttttttttt rev ctagaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaacgaaatgagtcgaataagg cgccactctattttttgctgcatggttccgtaggagaataaatgagcca
SCAN#1+2 tph-1prom46 (3x)	fwd gagagaaagcttggctcatttattctcccac rev gagagatctagaattttgctgcatggttcc 3x sequence: ggctcatttattctcccacggaaccatgacagcaaaaatggctcattt attctcccacggaaccatgacagcaaaaat ggctcatttattctcccacggaaccatgac agcaaaaat
tph-1prom45 (1x gcy-5)	fwd agcttggctcatttattctcccacggaaccatgacagcaaaaata rev agcttattttgctgcatggttccgtaggagaataaatgagcca 1x sequence: ggctcatttattctcccacggaaccatgacagcaaaaata

	gcy-5 sequence: agctttcattattaagcaaattcaagtataataacaactataaataag accaccaaatttgatatccggattaaaatgtatattttgaatagagaagttgatgcagataccaa caagattaaaacttcaaacattaagcaagaagcccccaatgcgatggtttcaaagaaaa ggtgcaaaatgggaagataatctcgtttaagaaaagttggaaatctattaagaccaacccccca gaagtagtagaattcaattactatttattgttttcgaaaaattactattctgatgaaaa
<i>srh- 142prom (1,5kb) in pPD95.75</i>	fwd gagagatctagataactccgaacttgccgcct rev gagagaaccggtattggcaaaaagaaaaaagaggtgc

Primers for site-directed mutagenesis (forward sequences)

Construct	Sequence
tph-1prom42	gcagggctcatttattctcttacggaaccatgacagca
tph-1prom70	ctgacatcattctcatcttttctatcatcacaagccgtgggctca
tph-1prom71	gcagggctcatttattctcttacggaaccatgacagca
cat-4prom69	gctttctcagctttctaagattacttacggctcattttcaatatcacc
cat-4prom73	cttattctttttctcatttttcacataatttgaaaagatgatgaagtctatccattcg
cat-4prom74	cttttttctcatttttcatttaagtgggaaaagatgatgaagtctatcc
bas-1prom74	cctacctcgatctctgtcaatttgggaaatcttttgctccagc
bas-1prom90	gtatcggaaatgtgctcggggccatagcgaaattatatttctattttcttatt
cat-1prom80	gtgatgtatagttcctttatataatcattttatgcttcaactgcagtctc
cat-1prom77	gcaaggggcacgtttagattcccttgtctgaaaaattgattg
cat-1prom72	ccaccaaattttcaatgtttccctgccgaaagaaaatatgaaaatatcaacg
cat-1prom90	ctgagagaaaaatgaaaggaaaatcccagaaatgtgatacaaaaactgagagtc
mod-5prom10	cctaaccxaaatcaatgaatattcttacgcatgttttctttttcacttc
mod-5prom11	cccaaataatgaatattcccacgcaaattttcctttttcacttcaa

Primers for CRISPR-Cas9 mediated mNeonGreen knock in

Amplicon	Sequence
<i>lag-1</i> homology arm 5'. External	fwd aataggacaaccggcgatgt rev cagacttctctgcccctcgtaattggacacaattctgcacgg
<i>lag-1</i> homology arm 5'. Nested	fwd acgttgtaaaacgacggccagtcgccggcacaaccggcgatgttgaggta rev catgtgtcctcctctcccttgagaccattgggccaggattctcctcgacgtcacc gcatgttagcagacttctctgcccctc
<i>lag-1</i> homology arm 3'. External	fwd aattactagattggtctctcgcg rev tggaagtccacaaaatccgagata
<i>lag-1</i> homology arm 3'. Nested	fwd cgtgattacaaggatgacgatgacaagagatagattggtctctcgcgga rev tcacacaggaacagctatgacatggtatgttccacaaaatccgagatacatcatg
<i>lag-1</i> sgRNA	fwd ctccattgacgagatgtcttgattactagattccactctcggttaagagctatgctgg aaacag rev ctgttccagcatagctcttaaacggagagtggaatctagtaatcaagacatctcg caataggag
<i>tph-1</i> homology arm 5'. External	fwd ccatcatgccgatccattttac rev cagacttctctgcccctc caggatgtagtgagagctcc
<i>tph-1</i> homology arm 5'. Nested	fwd acgttgtaaaacgacggccagtcgccggca gccgatccattttactccagaac rev catgtgtcctcctctcccttgagaccattgggccaggattctcctcgacgtc accgcatgttagcagacttctctgcccctc

<i>tph -1</i> homology arm 3'. External	fwd acatcctgtagtttgagttccg rev tcagctgggacaaagaaagg
<i>tph -1</i> homology arm 3'. Nested	fwd cgtgattacaaggatgacgatgacaagaga tagtttgagttccgtg rev tcacacaggaacagctatgacatggtatgacaatcgaagtgtcagttg
<i>tph -1</i> sgRNA	fwd ctctattgtagatgtcttgaacacggaaactcaaactacgtttaagagctat gctggaaacag rev ctgttccagcatagctcttaaacgtagtttgagttccgtgttcaagacatctcgc aataggag
<i>mod-5</i> homology arm 5'. External	fwd cagtacacttcaaaggcacac rev tggatctaaaagagaactatcg
<i>mod-5</i> homology arm 5'. Nested	fwd acgttgtaaaacgacggccagtcgccggcagctatggcctcgcaacgaaag rev cagacttctctgccctcaactggtgtgagagtggtgattggatctaaaagagaactatcg
<i>mod-5</i> homology arm 3'. External	fwd ccgctgatcccacacaaattatc rev cgcttctgccgattgttctagc
<i>mod-5</i> homology arm 3'. Nested	fwd cgtgattacaaggatgacgatgacaagagatagataattcttggtgactgttg rev tcacacaggaacagctatgacatggtatattgccgctaaatcttctg
<i>mod-5</i> sgRNA	fwdctctattgtagatgtcttgactggagtaagtgtatgaatgttttagagctagaaatag caag revcttgctatttctagctctaaaacattcatacacttactccagtcgaagacatctcgcaatag gag

Primers for ADF specific *lag-1* RNAi

Amplicon	Sequence
srh-142prom external fwd	cagttgatccgcttcttcagc
srh-142prom internal fwd	ccaacaatcacttcttcacatcagc
srh-142 rev with <i>lag-1</i> sense	ggcgattcgtagaaattatcggtgcaaaaaactatttcgatatgtacaactcata ttggc
srh-142 rev with <i>lag-1</i> antisense	cctacaaatcattggaacgacatggcaaaaaactatttcgatatgtacaactcat attggc
<i>lag-1</i>	fwd cacacgataatttctacgaatcgcc rev ccatgctgtccaatgattgttagg

Primers for ectopic *lag-1* expression cloning in pPD49.78

Amplicon	Sequence
lag-1a	fwd gagagagctagcatgcctctcgctactcaac rev gagagaggtaccctagtaattggacacaattctgcacg
lag-1d	fwd gagagagctagcatgtttctgaggcggtg rev gagagaggtaccctagtaattggacacaattctgcacg

Primers for *lag-1* cell autonomous rescue in ADF

Amplicon	Sequence
srh-142	fwd acgatggatagcgaacaacttgaaatgaaatccaacaatcactttctcacatcag cagtg rev tctatggtatgtagtatcattcgaaacatacctttggcaaaaaactatttcgatatgtaca actcatattggca
lag-1b	fwd ccaaaggtatgttcgaatgatactaacataacatagaacattttcagatgcctctcg ctactcaacaca rev gtaatgtagcgaccggcgctcagttggctagtaattggacacaattctgcacggtc
lag-1d	fwd ccaaaggtatgttcgaatgatactaacataacatagaacattttcagatgtttctgga ggcgtggc rev gtaatgtagcgaccggcgctcagttggctagtaattggacacaattctgcacggtc
lag-1c	fwd ccaaaggtatgttcgaatgatactaacataacatagaacattttcagatgtccagtcg gtatcgccgc rev gtaatgtagcgaccggcgctcagttggctagtaattggacacaattctgcacggtc
lag-1a	fwd cgaaatctggataagttatagttccagaagcaatgtccagtcg (mutagenesis)