

Supplementary Table 6 – Protein sequence accessions for phylogenetic tree and alignments

Note: Protein ID refers to the NCBI GenPept database

NXF family proteins				
Species name	Species name short	Species common name	Protein ID	Protein name
<i>Saccharomyces cerevisiae</i>	<i>S. cerevisiae</i>	budding yeast	NP_015156	MEX67
<i>Schizosaccharomyces pombe</i>	<i>S. pombe</i>	fission yeast	NP_595996	MEX67
<i>Hydra vulgaris</i>	<i>H. vulgaris</i>		XP_002156460	Nxf1-like
<i>Caenorhabditis elegans</i>	<i>C. elegans</i>		NP_001129880	NXF-1
<i>Caenorhabditis elegans</i>	<i>C. elegans</i>		NP_506568	NXF-2
<i>Danio rerio</i>	<i>D. rerio</i>	zebrafish	XP_001923961	Nxf1
<i>Danio rerio</i>	<i>D. rerio</i>	zebrafish	XP_009306018	Nxf2
<i>Mus musculus</i>	<i>M. musculus</i>	house mouse	NP_058093	Nxf1
<i>Mus musculus</i>	<i>M. musculus</i>	house mouse	NP_112549	Nxf2
<i>Mus musculus</i>	<i>M. musculus</i>	house mouse	NP_001019312	Nxf3
<i>Mus musculus</i>	<i>M. musculus</i>	house mouse	NP_570958	Nxf7
<i>Homo sapiens</i>	<i>H. sapiens</i>	human	NP_006353	NXF1
<i>Homo sapiens</i>	<i>H. sapiens</i>	human	NP_071336	NXF2
<i>Homo sapiens</i>	<i>H. sapiens</i>	human	NP_071335	NXF3
<i>Homo sapiens</i>	<i>H. sapiens</i>	human	BAC85929	NXF4
<i>Homo sapiens</i>	<i>H. sapiens</i>	human	NP_116564	NXF5
<i>Daphnia pulex</i>	<i>D. pulex</i>	common water flea	EFX66242	Nxf1-like
<i>Musca domestica</i>	<i>M. domestica</i>	house fly	XP_019893891	Nxf1-like
<i>Musca domestica</i>	<i>M. domestica</i>	house fly	XP_011294658	Nxf2-like
<i>Aedes aegypti</i>	<i>A. aegypti</i>	yellow fever mosquito	XP_001657723	Nxf1-like
<i>Aedes aegypti</i>	<i>A. aegypti</i>	yellow fever mosquito	XP_001651793	Nxf2-like
<i>Anopheles gambiae</i>	<i>A. gambiae</i>		XP_307993	Nxf1-like
<i>Anopheles gambiae</i>	<i>A. gambiae</i>		XP_321055	Nxf2-like
<i>Drosophila virilis</i>	<i>D. virilis</i>		XP_002055673	Nxf1
<i>Drosophila virilis</i>	<i>D. virilis</i>		XP_002046260	Nxf2
<i>Drosophila virilis</i>	<i>D. virilis</i>		XP_015031802	Nxf3
<i>Drosophila virilis</i>	<i>D. virilis</i>		XP_002056590	Nxf4
<i>Drosophila melanogaster</i>	<i>D. melanogaster</i>	fruit fly	NP_524660	Nxf1/sbr
<i>Drosophila melanogaster</i>	<i>D. melanogaster</i>	fruit fly	NP_524111	Nxf2
<i>Drosophila melanogaster</i>	<i>D. melanogaster</i>	fruit fly	NP_729938	Nxf3
<i>Drosophila melanogaster</i>	<i>D. melanogaster</i>	fruit fly	NP_731156	Nxf4

Panoramix family proteins			
Species name	Protein ID	Alignment - Start	Alignment - End
<i>Drosophila melanogaster</i>	NP_611675	308	446
<i>Drosophila biarmipes</i>	XP_016953201	318	456
<i>Drosophila ananassae</i>	XP_001959319	284	422
<i>Drosophila serrata</i>	XP_020802500	289	427
<i>Drosophila pseudoobscura</i>	XP_001360439	434	572
<i>Drosophila obscura</i>	XP_022230127	408	545
<i>Drosophila virilis</i>	XP_002055052	297	432
<i>Drosophila mojavensis</i>	XP_002009600	292	430
<i>Musca domestica</i>	XP_005189840	396	535
<i>Ceratitis capitata</i>	XP_004524918	512	649
<i>Aedes aegypti</i>	XP_021704954	396	519
<i>Anopheles gambiae</i>	XP_001688284	403	534
<i>Aedes aegypti</i>	XP_021704940	492	621

Nxf2 family proteins			
Species name	Protein ID	Alignment - Start	Alignment - End
<i>Drosophila melanogaster</i>	NP_524111	786	841
<i>Drosophila biarmipes</i>	XP_016966546	787	842
<i>Drosophila ananassae</i>	XP_001957658	781	836
<i>Drosophila serrata</i>	XP_020800007	784	839
<i>Drosophila pseudoobscura</i>	XP_002137987	799	854
<i>Drosophila obscura</i>	XP_022227270	798	853
<i>Drosophila virilis</i>	XP_002046260	784	840
<i>Drosophila mojavensis</i>	XP_002012228	786	842
<i>Musca domestica</i>	XP_011294658	796	851
<i>Ceratitis capitata</i>	XP_004526254	792	847
<i>Aedes aegypti</i>	XP_001651793	869	931
<i>Anopheles gambiae</i>	XP_321055	855	914

Nxf1 family proteins			
Species name	Protein ID	Alignment - Start	Alignment - End
<i>Drosophila melanogaster</i>	NP_52466	616	672
<i>Drosophila biarmipes</i>	XP_016951832	632	688
<i>Drosophila ananassae</i>	XP_001963487	625	681
<i>Drosophila serrata</i>	XP_020805502	608	664
<i>Drosophila pseudoobscura</i>	XP_001355396	630	686
<i>Drosophila obscura</i>	XP_022227481	638	694
<i>Drosophila virilis</i>	XP_002055673	617	673
<i>Drosophila mojavensis</i>	XP_015017053	619	675
<i>Musca domestica</i>	XP_019893891	605	661
<i>Ceratitis capitata</i>	XP_004531112	585	641
<i>Aedes aegypti</i>	XP_001657723	596	653
<i>Anopheles gambiae</i>	XP_307993	604	661

Supplementary Table 7 – Fly strains

Category	Genotype	Gene name	Synonyms	CG_Number	Source
control stock	w[1118]; ;	w	white	CG2759	Andersen et al., 2017
mutant allele	w; ;nxf2 Δ _MA4-6/TM3, Sb	Nxf2		CG4118	This paper
mutant allele	w; ;nxf2 Δ _MB1-4/TM3, Sb	Nxf2		CG4118	This paper
mutant allele	w;panx Δ _1-m3-4/CyO; ;	Panx	Silencio	CG9754	Sienski et al., 2015
mutant allele	w;panx Δ _2-m1-9/CyO; ;	Panx	Silencio	CG9754	Sienski et al., 2015
mutant allele	w;piwi Δ _1m1-1/CyO; ;	Piwi		CG6122	Senti et al., 2015
mutant allele	w;piwi Δ _2m4-1/CyO; ;	Piwi		CG6122	Senti et al., 2015
endogenous tagging	w; ;FLAG-GFP-Nxf2;	Nxf2		CG4118	This paper
endogenous tagging	w;FLAG-GFP-Panx; ;	Panx	Silencio	CG9754	This paper
RNAi line	w; ; pW20>w_sh[attP2]/TM3, Sb	w	white	CG2759	Mohn <i>et al.</i> , 2014
RNAi line	w; ; pW20>nxf2_sh_1[attP2]/TM3, Sb	Nxf2		CG4118	This paper
RNAi line	w; ; pW20>nxf2_sh_2[attP2]/TM3, Sb	Nxf2		CG4118	This paper
RNAi line	w; ; pW20>panx_sh[attP2]/TM3, Sb	Panx	Silencio	CG9754	Sienski et al., 2015
RNAi line	w; ; pW20>piwi_sh[attP2]/TM3, Sb	Piwi		CG6122	Senti et al., 2015
RNAi line	w; ; pW20>nxf1_sh[attP2]/TM3, Sb	Nxf1	sbr	CG1664	Handler et al. 2013
Tagged construct	MTD; MTD/CyO; MTD, FLAG-V5-GFP-Nxf2 [attP2]/TM3,Sb	Nxf2		CG4118	This paper
Tagged construct	MTD; MTD/CyO; MTD,Panx- FLAG-V5-GFP [attP2]/TM3,Sb	Panx	Silencio	CG9754	This paper
GAL4 driver	MTD-Gal4		maternal triple driver		Bloomington 31777
GAL4 driver	tj-Gal4				
Rescue construct	w;;nxf2 Δ _MA4-6, GFP-nxf2[wt]/TM3,Sb	Nxf2		CG4118	This paper
Rescue construct	w;;nxf2 Δ _MA4-6, GFP-nxf2[delta 1st unit]/TM3,Sb	Nxf2		CG4118	This paper

Supplementary Table 8 – Oligos

Purpose	Oligo Name	Sequence
Cloning oligos for fly guide RNA expression plasmids with genome matching sequence underlined	Nxf2-KO_gRNA_1_fw	cttcgATCGTGTTCGGGTACCCAT
	Nxf2-KO_gRNA_1_re	aaacATGGGTACCCGGAACACGATc
	Nxf2-KO_gRNA_2_fw	cttcgCCTGGAATACTCGCCAAATC
	Nxf2-KO_gRNA_2_re	aaacGATTTGGCGAGTATTCCAGGc
	Nxf2-TAG-N_gRNA_fw	cttcgCAAAGTCCAGCACTCTCATC
	Nxf2-TAG-N_gRNA_re	aaacGATGAGAGTGCTGGACTTTGc
	Panx-TAG-N_gRNA_fw	cttcgACTTTGACCTCTAGCTTCAT
Panx-TAG-N_gRNA_re	aaacATGAAGCTAGAGGTCAAAGTc	
Cloning oligos for short-hairpin (sh) RNA expression plasmid	Nxf2_sh_fw	TAGCAGTCTGGTACTTCACGGAAA TAAATAGTTATATTCAAGCATATTT ATTTCCGTGAAGTACCAGGCG
	Nxf2_sh_re	AATTCGCCTGGTACTTCACGGAAA TAAATATGCTTGAATATAACTATTT ATTTCCGTGAAGTACCAGACTG
Cloning oligos for OSC/S2 guide RNA expression plasmids with genome matching sequence underlined	chr2L:9,094,918_gRNA_1_fw	ttcgTGCCACATGCAACGCGGAGT
	chr2L:9,094,918_gRNA_1_re	aacACTCCGCGTTGCATGTGGCAc
	chr2L:9,094,918_gRNA_2_fw	ttcgGCGGAGTTGGAGTTTTGTAT
	chr2L:9,094,918_gRNA_2_re	aacATACAAAACCTCCAACCTCCGCc
	chr2L:9,103,945_gRNA_1_fw	ttcgTTTAAGACATTAAGTATACG
	chr2L:9,103,945_gRNA_1_re	aacCGTATACTTAATGTCTTAAAc
	chr2L:9,103,945_gRNA_2_fw	ttcgTTATTGCCGCCCTAAAGACG
chr2L:9,103,945_gRNA_2_re	aacCGTCTTTAGGGCGGCAATAAc	
Oligos used for droplet PCR	nanos_fw	GCAACTTAATGCCCATTCAC
	nanos_re	CGGCTGGTATATACGACATGT
	rep_GFP_fw	ACGACGGCAACTACAAGACC
	rep_GFP_re	TCCTCCTTGAAGTCGATGCC
	rep_Bla_fw	AAGCCTACATTGGCAGGGTC
rep_Bla_re	CATCACTGTAGGGGTGCCTC	
Oligos used for RT-qPCR	Rrp49_mRNA_fw	CCGCTTCAAGGGACAGTATCTG
	Rrp49_mRNA_re	ATCTCGCCGCAGTAAACGC
	mdg1_RNA-fw	ATATGTGCGACAAATTCGTCCAC
	mdg1_RNA-re	CAAGTATCTTTGTCTTGATTACCTCAAC
Oligos used for ChIP-qPCR	kalahari_fw	TGGTCTACGACATGGGCAAC
	kalahari_re	TGGGAATCGTCAGGGGTATC
	gobi_fw	ATCGTCGGCTTCGTTAGAGG
	gobi_re	ACACACGGACATACGCGAAC
	light_fw	ATGCGGCGGTATAACTGAAC
	light_re	TGGAGATCCGAAAGTCAAGC
	btk29_peak_fw	GAAGACGGACAGACTGAAGAGTG
	btk29_peak_re	TCCTATACATTTTCGCTGGTTTTTC
	act42_TSS_fw	AAAAGAACGCAGACGGGACC
	act42_TSS_re	AGGCGTCGGTCAATTCAATCT
	gapdh1_TSS_fw	TCCGTTAATTCCGATCTTCGACA
	gapdh1_TSS_re	AAAAAGCGGCAGTCGTAATAGC
	GFP_rep_int_1_fw	GCCACCATGGAAAAGGTAGG
	GFP_rep_int_1_re	TAGGAATGGGTGACCTCGAG
	GFP_rep_int_2_fw	TCACCCATTCTAGCTTCCC
	GFP_rep_int_2_re	GCTCACCATGGCCTGAAG
	GFP_fw	CCCGACAACCACTACCTGAG
GFP_re	GTCCATGCCGAGAGTGATCC	

Supplementary Table 9 – siRNAs

Target gene	Sequence
GFP_guide	ACUUCAGGGUCAGCUUGCCUU
GFP_passenger	GGCAAGCUGACCCUGAAGUUU
luc_guide	UUCAGUAUUAGGAAACUUCUU
luc_passenger	GAAGUUUCCUAAUACUGAAUU
piwi_guide	CACCUUCACGCCUGGGAGCUU
piwi_passenger	GCUCCCAGGCGUGAAGGUGUU
Panx_guide	UUCUUGUACAGCGUAGCCGUU
Panx_passenger	CGGCUACGCUGUACAAGAAUU
Nxf2_1_guide	CCGAAUGC UUAACCUCGAAUU
Nxf2_1_passenger	UUCGAGGUUAAGCAUUCGGUU
Nxf2_2_guide	CGGAGGAGUGCAUACAGAAUU
Nxf2_2_passenger	UUCUGUAUGCACUCCUCCGUU

Supplementary Table 10 – Antibodies

Antibody	Source	Identifier	Experiment
GFP-Trap_MA Magnetic Beads	ChromoTek	Cat# gtma-20	co-immunoprecipitation
Anti-FLAG M2 Magnetic Beads	Sigma Aldrich	Cat# M8823-1ML	co-immunoprecipitation
Anti-Actin antibody produced in rabbit	Sigma Aldrich	Cat# A2066-2ML	western blot loading control 1:8000
Anti-ATP5A antibody [15H4C4] produced in mouse	Abcam	Cat# ab14748	western blot loading control 1:8000
Anti-GFP Living Colors A.v. Monoclonal Antibody (JL-8) produced in mouse	Takara	Cat# 632381	western blot 1:1000
Monoclonal ANTI-FLAG M2 antibody produced in mouse	Sigma Aldrich	Cat# F3165-.2MG	western blot 1:1000
anti-RNA Polymerase II, 8WG16	Abcam	Cat# ab817	chromatin immunoprecipitation
anti-H3K9me3 antibody produced in rabbit	Active Motif	Cat# 39161	chromatin immunoprecipitation
Anti-Nxf2 monoclonal antibody produced in mouse	This paper	A86	immunofluorescence staining 1:50
Anti-Panx monoclonal antibody produced in mouse	This paper	1B1	immunofluorescence staining 1:200
Anti-Nxf2 monoclonal antibody produced in mouse	This paper	3D5-G10	western blot 1:10
Anti-Panx monoclonal antibody produced in mouse	Sienski et al., 2015	2B4-H11	western blot 1:20, co-immunoprecipitation
Anti-Piwi monoclonal antibody produced in mouse	Senti et al., 2015	8C2-E4	western blot 1:1000
Anti-Piwi antibody produced in rabbit	Brennecke et al., 2007	A12	immunofluorescence staining 1:1000
Anti-Mouse IgG (whole molecule)–Peroxidase antibody produced in rabbit	Sigma Aldrich	Cat# A9044-2ML	western blot 1:8000
Anti-Rabbit IgG (whole molecule)–Peroxidase antibody produced in goat	Sigma Aldrich	Cat# A0545-1ML	western blot 1:8000
Goat anti-Rabbit IgG (H+L) Cross-Adsorbed Secondary Antibody, Alexa Fluor 568	Thermo Fisher Scientific	Cat# A-11011	immunofluorescence staining 1:1000
Goat anti-Mouse IgG (H+L) Cross-Adsorbed Secondary Antibody, Alexa Fluor 647	Thermo Fisher Scientific	Cat# A-21235	immunofluorescence staining 1:1000
Wheat Germ Agglutinin, Alexa Fluor 647 Conjugate	Thermo Fisher Scientific	Cat# W32466	immunofluorescence staining 1:200
Anti-GFP antibody (rabbit)	Abcam	ab6556	immunofluorescence staining 1:2000

Supplementary Table 11 – Stellaris oligo probes detecting mdg1 RNA

Oligo number	Sequence
1	ttgtatttcttgccagtcca
2	ctctatttgggtcatgcat
3	ttgagagtgtcttgttgac
4	ttaccaatatctgcgcatgc
5	ttaattggcgtgctccatta
6	tctcacggaacctgtttaga
7	gttgtgtctgtacttgacgt
8	atctcagccactatagggtg
9	atcgtggagatccttctt
10	ttattaccgctggaattgca
11	cttctcaagtaattcgggt
12	tcctgtattgaaatcgaaa
13	tgtccgttctctgtattctt
14	gttgccgcagagtctgtcat
15	ttgtcgcacatattcccttg
16	actcaggtattgtggacgaa
17	aagtttaacttttgcgctc
18	gagagccgtgaggaatctat
19	cctgatctcctttgtcaga
20	gattacctcaaccgtagca
21	atggaccaagatctttgtc
22	tcattttcaacttgtgtga
23	tattataccgataatggctt
24	tcgcctttaactgatgcttt
25	tttgcttgatgacatcggg
26	gcgctgttgtgactaagca
27	acgtaggtttctatctccg
28	tatataggctgcttcgagca
29	tgttggatctaaacctca
30	ttttagcgaattgtctgc
31	ggtcattgcagatagggctt
32	gcttatcgtgccacagttc
33	ttccagcttccaatatgg
34	cacgctattcatcgtgtga
35	gtgcctctattattataga
36	ctcggtaattattacctga
37	ttacctgttttggtaatt
38	ggagttataattcctcggc
39	acctctgcctctatagttg
40	ctctgtttccaccatggtaa
41	tggtttggttacctctga
42	cattgtggcatgactgtt
43	tgttcgtttccgattgtat
44	tttagattgcgctcaagg
45	acctgaattggtactcat
46	attgttctgcatttaagca
47	gaattgtccctgacctatt
48	tttctaaatgtagtgacct

Supplementary Table 12 – NGS list (GEO Accession: GSE120617)

NGS ID	Name	Experiment	Description
NGS51151	w1118_rRNA dep_RNAseq	RNA-seq	rRNA depleted total RNAs from ovaries
NGS51152	Piwi_KO_TH_rRNA dep_RNAseq		
NGS51157	Panx_KO_TH_rRNA dep_RNAseq		
NGS51153	Nxf2_KO_g1_rRNA dep_RNAseq		
NGS51154	Nxf2_KO_g2_rRNA dep_RNAseq		
NGS51155	Nxf2_KO_TH_rRNA dep_RNAseq		
NGS50789	w_GLKD_rRNA dep_RNAseq	RNA-seq	rRNA depleted total RNAs from ovaries
NGS50790	Piwi_GLKD_rRNA dep_RNAseq		
NGS50791	Panx_GLKD_rRNA dep_RNAseq		
NGS50792	Nxf2_GLKD_rRNA dep_RNAseq		
NGS48737	ctrl_OSC KD_rRNA dep_RNAseq	RNA-seq	rRNA depleted total RNAs from OSCs
NGS48738	Piwi_OSC KD_rRNA dep_RNAseq		
NGS48739	Panx_OSC KD_rRNA dep_RNAseq		
NGS48742	Nxf2_1_OSC KD_rRNA dep_RNAseq		
NGS48743	Nxf2_2_OSC KD_rRNA dep_RNAseq		
NGS66681	ctrl_OSC KD_polyA_RNAseq-rep1	RNA-seq	polyA selected RNAs from OSCs
NGS66688	ctrl_OSC KD_polyA_RNAseq-rep2		
NGS66695	ctrl_OSC KD_polyA_RNAseq-rep3		
NGS66682	Piwi_OSC KD_polyA_RNAseq-rep1		
NGS66689	Piwi_OSC KD_polyA_RNAseq-rep2		
NGS66696	Piwi_OSC KD_polyA_RNAseq-rep3		
NGS66683	Panx_OSC KD_polyA_RNAseq-rep1		
NGS66690	Panx_OSC KD_polyA_RNAseq-rep2		
NGS66697	Panx_OSC KD_polyA_RNAseq-rep3		
NGS66685	Nxf2_1_OSC KD_polyA_RNAseq-rep1		
NGS66692	Nxf2_1_OSC KD_polyA_RNAseq-rep2		
NGS66699	Nxf2_1_OSC KD_polyA_RNAseq-rep3		
NGS66686	Nxf2_2_OSC KD_polyA_RNAseq-rep1		
NGS66693	Nxf2_2_OSC KD_polyA_RNAseq-rep2		
MGS66700	Nxf2_2_OSC KD_polyA_RNAseq-rep3		
NGS51342	w_GLKD_sRNAseq		
NGS51343	Piwi_GLKD_sRNAseq		
NGS51344	Panx_GLKD_sRNAseq		
NGS51345	Nxf2_GLKD_sRNAseq		
NGS49844	ctrl_OSC KD_sRNAseq	sRNA-seq	small RNAs (18-29 nt) from OSCs with 2S rRNA depletion
NGS49845	Piwi_OSC KD_sRNAseq		
NGS49846	Panx_OSC KD_sRNAseq		
NGS49847	Nxf2_1_OSC KD_sRNAseq		
NGS49848	Nxf2_2_OSC KD_sRNAseq		

NGS ID	Name	Experiment	Description
NGS66728	ctrl_OSC KD_ChIP_inp	ChIP-seq	input DNA used for chromatin immunoprecipitation in OSCs
NGS66729	Piwi_OSC KD_ChIP_inp		
NGS66730	Panx_OSC KD_ChIP_inp		
NGS66732	Nxf2_1_OSC KD_ChIP_inp		
NGS66733	Nxf2_2_OSC KD_ChIP_inp		
NGS66734	ctrl_OSC KD_ChIP_H3K9me3	ChIP-seq	chromatin immunoprecipitation with H3K9me3 in OSCs
NGS66735	Piwi_OSC KD_ChIP_H3K9me3		
NGS66736	Panx_OSC KD_ChIP_H3K9me3		
NGS66738	Nxf2_1_OSC KD_ChIP_H3K9me3		
NGS66739	Nxf2_2_OSC KD_ChIP_H3K9me3		
NGS66740	ctrl_OSC KD_ChIP_Pol II	ChIP-seq	chromatin immunoprecipitation with RNA Pol II in OSCs
NGS66741	Piwi_OSC KD_ChIP_Pol II		
NGS66742	Panx_OSC KD_ChIP_Pol II		
NGS66744	Nxf2_1_OSC KD_ChIP_Pol II		
NGS66745	Nxf2_2_OSC KD_ChIP_Pol II		

Supplementary Table 13 – Antisense rRNA oligo list

Oligo Name	Sequence
ITS2-251	GTTTTTATTTATCCATTTTTAACGAACCAACGAAGAATAATAACATAACC
ITS2-201	AAGATTTTTCTATTTCCGAATCATTAAATAAGAGACAATTCTAGATGAAAA
ITS2-151	ATATTTCAATTTTTATGCTAGACATTTCTCAGTATTATTTGATTGAAAA
ITS2-101	AGAAAATATTTCTCTTCGTTTTTCACATTCAAATGTGAGATAATGTTTT
ITS2-51	CATTTATTTTTAATATTATGAATAAAAATTATTATTTATCCAATAAT
ITS2-1	ATACCATATGCTTATAAAAAATTATAAGCAACTTAATTAGCATAGTCTTA
ITS1-651	TGCAATTATGTTTTATTGAAAGAAATTA AAAATACACCATTTTACTGG
ITS1-601	CATATATCAATTCCCTCAATAAATGTATTTATATACCTAAAAATAAATGTT
ITS1-551	GCGAAATGCTTAGTTTTCATATAAGCATTATGTATCATAATAATCTGGTT
ITS1-501	GGTTATGGGGTTTGCTATTTTGGGTGACACATACTGCAATTTATATAAAA
ITS1-451	CATTAACCTGATGGATGCCAGGTACAACATTGTTTATTTTCAGGTTGTTGC
ITS1-401	ATTAGCCAACGTATGCCATAACTAAGATGAACAATACATATTCGCAACG
ITS1-351	CGTGTATAGTAATAAATACACACAAATTTTAAAAATTAGTTAATATCTAC
ITS1-301	CAATTATATTAACACTTATTTTCGATGATTACCACACATTCGAAATTTT
ITS1-251	TATTTTGATTTCGACTTCCACTTTCGAATTTTGTTCTTCGATTTTCATGT
ITS1-201	TCGAAACATTATTTTTATAGGAAACGCCGTTGTTGTAAGTACTCGCCACA
ITS1-151	AATACGCACAACATACATTAGAAATGTTAAAATCTTTTTATGAGGTTGCC
ITS1-101	AAGCCCCACACTAACTATATAAATAAAAACCCATCTTCGTTTTATTTGAT
ITS1-51	TTAACTTTTGATTCCATGGAATCATTTTGTTATATTTTTATTTTGTTAA
ITS1-1	ATTGTTTTTATTTGTATAATTACAAATATTTATTAACGGTAAGGATATTA
us18s-801	AATGTTTTCTTTTCATATTTCCATTCATATTTTTTTGAATTGAAATAAGCAA
us18s-751	TATAAATATTATAGATTTTCCACTTTATATATAATTCCATTTTTTTATAT
us18s-701	TATTGAATGTAATTCAATATTTTGCCTTTGGGTAAAAATTTTAAATATAT
us18s-651	TTATAAAAATAAATCCATTTCGAATACGGCCATTTTTATATAGCACTCGTA
us18s-601	ATTCGTATTCCATTTTTAAATTCTACTTGTTTTACCAATATAACAAGAA
us18s-551	GATCATACAATTATTGTAATATATTTTCTATAATTTTGTCTTTATATATA
us18s-501	CATATATTTCAATCTAAAATATCATTATTTTCCAACATACATAAATTTT
us18s-451	GTATCCACACTTGTACAATTTTGTAAACCAAATAAAGTTAAATCATT
us18s-401	TGCATCTTGATGATAAATTTAAATTTATCTCTTTTCATATAACTCTCTG
us18s-351	GTAATATATAACATAAAAACCGAGCGCACATGATAATTCCTCCAAATTTAT
us18s-301	ATATAAATTTTATATTTCTTTTCATATAATAATATGAATCCATTTTGTATT
us18s-251	ATACCGTAACGATATAAATAATCCAACCTTACAGGCAGGTAATAAACTAAT
us18s-201	ATTTGCCTGCCACCAAAAATTAACGATAATATATGGAAACGATTTGTTAT
us18s-151	TCTATGTATAATAGAACTTGACTTTTTGTTTCAACGATATTATCTAAAAT
us18s-101	AGCGTATATTCCTATTATCCGCGGAGCCAAGTCCCGTTCAAAAAGAAC
us18s-51	TGAGAAACAAATTTGTACGGATAATAATATACTTTATTATAAGTAACCAA

Oligo Name	Sequence
lrRNA-851	GCTTATCCCATAAAACATTAATAATTATAAATTAATTAATTAATAATAATAA
lrRNA-801	AAGCATATATTTATTAAATCTATTTAATATTTTTAAAAATTTATTTTATA
lrRNA-751	TTTAATTTATAAAATAAATTATAACATATTTTTTAATAATTGCTAATTCT
lrRNA-701	TTAATAATTAAAAACTAACATTTTAATAAATAATTAATAATTTAATAAATAA
lrRNA-651	AAATTAATTTTAACATTATTATATACTAATTTTATCATTATTACTTTAATT
lrRNA-601	AAACAGGCGAATATTATTTTTGCCGAATTCCTTTATTTAAACTTTTCATAT
lrRNA-551	CAGTGGGCAGGTTAGACTTTTATATAAATTCAAAAAGACATGTTTTTGTT
lrRNA-501	TGATTATGCTACCTTTGCACAGTCAAATACTGCGGCCATTTAAAAATTTT
lrRNA-451	AGTTAATATTTTCGTCCAACCATTCCAGCCTTCAATTAAGACTAA
lrRNA-401	TTTAGCTTTTTGACTAAAAAATAAAATTTCTATAAAAAATTTAAATGAAAC
lrRNA-351	ATAAAAAAAAAATATAAAGATTTATAGGGTCTTCTCGTCTTTTAAATAAAT
lrRNA-301	CCAATAAAATATTTTTATTTATTAATAATTAATTAATCTATATAATTAATAA
lrRNA-251	TAAATTTATGTTTTTAAAAAATTAAGTTTTTTAAATTTAATATCACC
lrRNA-201	TCCCTAAAGTAACTTAATTTTTAATCATTATTAATGGATCAAAATTTCA
lrRNA-151	GTCGCAATCTTTTTTATCGATATGAACCTCTCCAAAAAATTACGCTGTTA
lrRNA-101	TTAAAAATTTGAACGGCTACACCCAAAATTATATCTTAATCCAACATCGAG
lrRNA-51	TTACACCGGTTTGAACCTCAGATCATGTAAGAATTTAAAAGTCGAACAGAC
lrRNA-1	CCTTTCGTAATAAATATCATAATTTTTTAAAGATAGAAACCAACCTGGC
srRNA-451	ATAAATTTAATTTAATTAATAACTAAAAAATTTATTTGTATTAATGGTAT
srRNA-401	ATAATTTAAATATAAAATTTCACTTAATATATTTAATTTTATTATTATTA
srRNA-351	AATCCTAGTTTTTTATTAATAATTTTTAACCTCAATTACATTTTTATATA
srRNA-301	AACTATTACTACTTTAGCAATTTATTTACATTTTAAATAATAGGGTATCT
srRNA-251	TCCTCTAGATAGACTAAAATACCGCCAAATTTTTAAGTTTCAAGAACAT
srRNA-201	ATTACAAATTTAAGTAAGGTCCATCGTGGATTATCGATTAAAAACAGGT
srRNA-151	GAATATTATTATTCTTATAAAATATTCTGATAACGACGGTATATAAACTG
srRNA-101	TTAAATATAAGCTACACCTTGATCTGATATAAATTTTTATTAAAAATTATT
srRNA-51	TTTTTCATAATTTTATTCATATAAATAAATTTATTGTAACCCATTATTAC
srRNA-1	ATCAAATTTAATCTTTATAATTTTACTACTAAATCCACTTTTAAAAAAT
28s-spacer	TTCGCTTTCGCCTTGAACCTTAGGACCGACTAACTCGTGATCAACCACTGT
5.8s-65	CTGCGATATGCGTTCAAAATGTCGATGTTTCATGTGTCCTGCAGTTCACAC
5.8s-6	CAGTTTGCTGCGTTCTTCATCGACCCATGAGCCGAGTGATCCACCGCTTA

Oligo Name	Sequence
18s-1901	TTTACTTCCTCTAAATAATCAAGTTCGGTCAACTTTTTGCGAAACAACCGT
18s-1851	AACACGCAAGGCGTCACAGTGATCACGTCCGGAGACCTCACTAAATAATT
18s-1801	CAATCGGTAGTAGCGACGGGCGGTGTGTACAAAGGGCAGGGACGTAATCA
18s-1751	ATGCGAGTTAATGACTCACACTTACTGGGAATTCCAAGTTCATCGTGAAC
18s-1701	AGTTTCAGTTCACAATCCCAAGCATGAAAGTGGTTCAGCGGTTTACCCGG
18s-1651	ACCTCTCGGTCTAGGAAATACACGTTGATACTTTCATTGTAGCGCGCGTG
18s-1601	CAGCCCAGGACATCTAAGGGCATCACAGACCTGTTATTGCTCAATCTCAT
18s-1551	TATTGCTAGACGCAATTTGTCCATTTAAGAAGCTAGTGTCTTATAATGG
18s-1501	GACAAACCAACAGGTACGGCTCCACTTACATAAACACATTCAAACACAAT
18s-1451	AAGCATTTTACTGCCAACATGAATGAAGGCTACATAAGCTTCAGCACCAT
18s-1401	AATCCTGAAGATATCTATTTAATATATTTGAGTCTCGTTCGTTATCGGAA
18s-1351	TTAACCAGACAAATCACTCCACGAACTAAGAACGGCCATGCACCACCACC
18s-1301	CATAGATTCGAGAAAGAGCTATCAATCTGTCTTACACACTTATGTTTCGAC
18s-1251	CTGGTAAGTTTTCCCGTGTTGAGTCAAATTAAGCCGCAGGCTCCACTCCT
18s-1201	GGTGGTGCCCTCCGTCAATTCCTTTAAGTTTCAGCTTTGCAACCATACT
18s-1151	TCCCCCGGAGCCCAAAAAGCTTTGGTTTTCCCGGAAGCGACTGAGAGAGCC
18s-1101	ATAAAAGTAGCTACACCCAATTGCTAGCTGGCATCGTTTATGGTTAGAAC
18s-1051	TAGGGCGGTATCTGATCGCCTTCGAACCTCTAACTTTTCGTTCTTGATTAA
18s-1001	TGAAAACATCTTTGGCAAATGCTTTTCGCTTAAGTTAGTCTTACGACGGTC
18s-951	CAAGAATTTACCTCTCGCGTCGTAATACTAATGCCCCCAAAGTCTTCT
18s-901	ATTAATCATTACCTCTTGATCTGAAAACCAATGAAAGCAGAACAGAGGTC
18s-851	TTATTTTATTATCCCATGCACAGAATATTCAGGCATTTGAAGCCTGCTTT
18s-801	AAGCACTCTAATTTGTTCAAAGTAATAGTACCGGCCACAATAACTCG
18s-751	TTTAAGAGCACTAATGCAGGTTTTTAATAGGAGGAACATATGAAAAAAT
18s-701	ACAAGTATTTAATCACATATAAGAACTCCACCGGTAATACGCTTACATAC
18s-651	ATAAAGGTATAGTACTAACCACAATTGTAAGTTGTACTACCCGTATGAAG
18s-601	CACAAGTTCAACTACGAACGTTTTAACCGCAACAACTTTAATATACGCTA
18s-551	TTGGAGCTGGAATTACCGCGGCTGCTGGCACCAGACTTGCCCTCCAATTG
18s-501	GTCTTGTTAAAGGATTTAAAGTGTACTCATTCCAATTACAGGGCCTCGG
18s-451	ATATGAGTCCTGTATTGTTATTTTCGTCACTACCTCCCCGAGCTGGGAG
18s-401	TGGGTAATTTACGCGCCTGCTGCCTTCCTTAGATGTGGTAGCCGTTTCTC
18s-351	AGGCTCCCTCTCCGGAATCGAACCTGATTCCCCGTTACCCGTTGCAACC
18s-301	ATGGTAGTCTAGATACTACCATCAAAAAGTTGATAGGGCAGACATTTGAA
18s-251	AGATCTGTCTCGGTACAAGACCATACGATCTGCATGTTATCTAGAGTTC
18s-201	AACCAATATAACGATCTTGCATCGCTTGGTTTTAGCCTAATAAAAAGCAC
18s-151	ACGTCCCATAAGGTTTCATGTTTTAATTGCATGTATTAGCTCTAGAATTAC
18s-101	CACAGTTATCCAAGTAAGTGTAAACGATCTAAGGAACCATAACTGATATA
18s-51	ATGAGCCTTTTTCGGGTTTCACTTTTAATTCGTGTGTACTTAGACATGCAT
18s-1	GGCTTAATCTTTGAGACAAGCATATAACTACTGGCAGGATCAACCAGAAT

Oligo Name	Sequence
28sR-2051	GATCGCAGTATGGCAGCTGCTCAACCACTTACAACACCTTGCCTGTTACA
28sR-2001	AAAGTCGTTTACAATTGATTCTAGGCTTTGTCATTGTATTAATAATGCT
28sR-1951	TTTATATGTAAC TAGCGCGCATCAGGTGATCGAAGATCTCCCAATTFA
28sR-1901	CTATGTTACAAATTACATTGGCATCACATCCATTGTCTGTTTATAAAGTAA
28sR-1851	ATTATAAACTTTAAATGGTTTAGAAGCCATACAATGCAAATTGCCCTTA
28sR-1801	TTTATCATTGCAGTCCAGCACGGATACGACCTTAGAGGCGTTCAGGCATA
28sR-1751	ATCCAACGGACGTAGCGTCATACCACTGTTGCTCGAACAAGTATTGTGC
28sR-1701	CATTGGTCCGTACCTGCGGGTTCCTCTCGTACTACGCAGGAATGCTGTCTG
28sR-1651	CAACAACGTTTTGTATTAGTAGGGTAAACTAACCTGTCTCACGACGGT
28sR-1601	CTAAACCCAGCTCACGTTCCCTTGCATGGGTGAACAATCCAACGCTTGGT
28sR-1551	GAATTTTGCTTCACAATGATAGGAAGAGCCGACATCGAAGGATCAAAAAG
28sR-1501	CGACGTCGCTATGAACGCTTGGCCGCCACAAGCCAGTTATCCCTATGGTA
28sR-1451	ACTTTTCTGACACCTCTTGTTAAAACTCTTTAAACAAAAGGATCGATA
28sR-1401	GGCCGAGCTTTTGCTGTCCCTGTGTGACTGAACACCGAGATCAAGTCAG
28sR-1351	CATTGCCCCTTTTGCTCTATGTGTGGTTTCTGTCCGCACTGAGCTGGCCT
28sR-1301	TGGGACACCTCCGTTATTATTTGAGAGATGTACCGCCCCAGTCAAACCTCC
28sR-1251	CTACCTGGCAATGTCTTGAATTGGATCATACCTGAGTAATTGGAGTTAT
28sR-1201	ACCAAATTTTCAAATCAAAAATACATAAATGCATCGTTTTATTAAGAAT
28sR-1151	TTGTTTGCGATTATATAACAACTCGTGATACTTTGATCAAGAAGCTTGC
28sR-1101	ATCAAAACCCAATACCATAAGATATAATAAATATATCCGTATAATGGCTA
28sR-1051	GGAAATGATACACGTTCCATTTAATCAAGTAAGTAAGGAAACAATAAGAG
28sR-1001	TAGTGGTATTTCAATTGACGATACCAAACCGAGGTCTAATATCTCCCACTT
28sR-951	ATTCTACACCTCTTATGTCTCCTTACACTGCCAGATTAGAGTCAAGCTCA
28sR-901	AAAGGGTCTTCTTTCCCGCTAATTATTCCAAGCCCGTTCCTTGGCTGT
28sR-851	GGTTTCGCTAGATAGTAGATAGGGACAGTAGGAATCTCGTTAATCCATTC
28sR-801	ATGCGCGTCACTAATTAGATGACGAGGCATTTGGCTACCTTAAGAGAGTC
28sR-751	ATAGTTACTCCCGCGTTGACCCGCGCTTACTTGAATTTCTTCACTTTGA
28sR-701	CATTCAGAGCACTGGGCAGAAATCACATTGTGTCAACACCCGCTAGGGCC
28sR-651	ATCACAATGCTTTGTTTTAATTAGACAGTCGGATTCCCCAAGTCCGTGCC
28sR-601	AGTTCTGAATTGATTGTTAATTGATAATCGTTATAATTAATAAGAACTAA
28sR-551	TTGGTTTAACCCAAATAGTATTCTTAAAAATTTAGCAAGAAAGTTCCAC
28sR-501	AATTGGCTACGTAACATAACTATCCGGGAACAAGTAACATAACATAAATG
28sR-451	CTAGAAACTCTATTTACCCAGAACGAGCACATAAACCATGTTATTGTTTC
28sR-401	CCAATCAAGGCCGACTATCTCAATCTTCAGAGCCAATCCTTATCCCGAAG
28sR-351	TTACGGATCTAATTTGCCGACTTCCCTTACCTACATTATTCTATCGACTA
28sR-301	GAGACTCTTCACCTTGGAGACCAGCTGCGGATATTGGTACGGCCTGTTGA
28sR-251	GAAGTTTGCGTGTCCCACATAAATTTCAAGGTCCGAGGAGAAAATAT
28sR-201	CGACACAACAGTATATGTCATGCTCTTCTAGCCCATCTACCATATCTCTC
28sR-151	TGCGAAAGACTTCCATGGTAGTACGGCTATAAAACAGAAAAGAAAACCTCT
28sR-101	TCCGATATCTCTCGACGGCTTCTTTATGGTCGTTCTGTTGCCAGGATGA
28sR-51	GCACGAGGCCCATATTTAATAACAAACGGATACTCAACAGGTTACGGAAT
28sR-1	TGGAACCGTATTCCCTTTGTTCAAAATATTCAAGTGATTATAATTCCG

Oligo Name	Sequence
28sL-1751	AACCCTTCTCCACTTCAGTCTCCAAGGCTCTCATTTCGATTATTTGCTAC
28sL-1701	TATCCACCAAGATCTGTACCAATGGCAGCTCCATGCAGGCTTACGCCAAA
28sL-1651	CACTTCTACGCATACCATTGTACCTTCTACTCACTAAAGTTTCAAAATT
28sL-1601	TATATCACAAAGTAATATAAATCATCTACTTTAGCGGTAATGTATAGGTAT
28sL-1551	ACAACCTTAAGCGCCATCCATTTTAAGGGCTAGTTGCTTCGGCAGGTGAGT
28sL-1501	TGTTACACACTCCTTAGCGGATTTTCGACTTCCATGATCACCGTCCTGCTG
28sL-1451	TTTTAAGCAACCAACGCCTTTTCATGGTATCTGCATGAGTTGTTAATTTGG
28sL-1401	GCACGTAACATTACGTTTGGTTCATCCCACAGCGCCAGTTCTGCTTACCA
28sL-1351	AAAGTGGCCCACTGGGACATTTATATCATAACCTTGATCTTCATATCAAG
28sL-1301	AAAGTTAAGGTTCTTACCCATTTAAAGTTTGAGAATAGGTAAAGATCGTT
28sL-1251	TCGACCCTAAGGCCTCTAATCATTTCGCTTTACCAGATAAGATTATTTTAT
28sL-1201	ATAATATTAATAATGCACCAGCTATCCTGAGGGAAACTTCGGAAGGAACCA
28sL-1151	GCTACTAGATGGTTTCGATTGGTCTTTTCGCCCCTATACTCAATTCTGACAA
28sL-1101	TCGATTTGCACGTCAAGACTGTTTCGGTCTTCCATCAGGGTTTCCCCTGA
28sL-1051	CTTCAACCTGATCAAGTATAGTTCACCATCTTTCGGGTCACAGCATATAT
28sL-1001	GCTCAAGGTACGTTCCAGTTAGAGGCATAAATAATATAAATATACATTAT
28sL-951	ACATAACTATATAGAACGCCCCGGGATTGTGTTAATTAGCTATAAATAGC
28sL-901	TAAAAAACTAATCCCATTATTAGTCAAGTTAATTACGCTATTAGGTTTAT
28sL-851	ATCCCAATAACTTGCACATATGTTAGACTCCTTGGTCCGTGTTTCAAGAC
28sL-801	GGGTCCCGAAGGTATCCTGAATCTTTCGCATTGTTAATCATACAAGTGCA
28sL-751	TATAATAAACACAAAAATCAATGATAATTATGCCATTATATAAATCCGAA
28sL-701	AAATTAACGCACTGTAATCATATAAATCTATCAGCACTTTATCAAATTA
28sL-651	TAACATTTATTCTGTGTTAAATGCAAGCAATTTAATTGGAATAAACTAT
28sL-601	AAGTTATATTTTATGATAAATTTGGTATATGCTAATAGATTACAATGTCC
28sL-551	TTATATGGAAAAAATGCACACTATTCTCATAATATTATTTAAATATTACA
28sL-501	ATTTTAATGATGAATTTTCCATAACGGATATTCAGGTTTCATCGGGCTTAA
28sL-451	CCTCTAAGCAGTTTCACGTACTGTTTAACTCTCTATTTCAGAGTTCTTTTC
28sL-401	AACTTTCCTCACGGTACTTGTGTTACTATCGGTCTCATGGTTATATTTAG
28sL-351	TTTTAGATGGAGTTTACCACCCACTTAGTGCTGCACTATCAAGCAACACG
28sL-301	ACTCTTTGGAACATCATCTAGTAATCATTAAACGTTATACGGGCCTCATT
28sL-251	TAAGAAGGACTTAAATCGTTAATTTCTCATACTAGAATATTGACGCTCCA
28sL-201	TACACTGCATCTCACATTTGCCATATAGACAAAAGTGACTTAGTGCTGAAC
28sL-151	TGTTTTCTTTTCGCTCGCCGCTACTAAGAAAATCCTTGTTAGTTTCTTTT
28sL-101	CCTCCCCTAATTAATATGCTTAAATTCAGGGGTAGTCCCATATGAGTTG
28sL-51	AGGTTGTATATAACTTTATCTTGCCATAAATCTTTATATATAATGATAA
28sL-1	AACATTTAATTAATTCGTTATAACATTTTATTAATTCCTTGATGCAAA