

Key resources table

Reagent type (species) or resource	Designation	Source or reference	Identifiers	Additional information
Gene (<i>Drosophila melanogaster</i>)	<i>timeless (tim)</i>	NA	FLYB:FBgn0014396	
Genetic reagent (<i>Drosophila melanogaster</i>)	<i>Drosophila yakuba</i>	Drosophila Species Stock Center (DSSC)		
Genetic reagent (<i>Drosophila melanogaster</i>)	<i>Drosophila simulans</i>	Drosophila Species Stock Center (DSSC)		
Genetic reagent (<i>Drosophila melanogaster</i>)	<i>Drosophila virilis</i>	Drosophila Species Stock Center (DSSC)		
Genetic reagent (<i>Drosophila melanogaster</i>)	<i>per01</i>	Bloomington Drosophila Stock Center (BCSC)	FLYB:FBal0013649	
Genetic reagent (<i>Drosophila melanogaster</i>)	<i>tim01</i>	BDSC	FLYB:FBal0035778	
Genetic reagent (<i>Drosophila melanogaster</i>)	UAS- <i>tim-sc-FLAG</i>	This paper	NA	Generated by the site-specific PhiC31 Integration System (BestGene) using the attP on the 3 rd chromosome of UAS- <i>tim-sc-FLAG</i> plasmid.
Genetic reagent (<i>Drosophila melanogaster</i>)	UAS- <i>tim-M-FLAG</i>	This paper	NA	Generated by the site-specific PhiC31 Integration System (BestGene) using the attP on the 3 rd chromosome of UAS- <i>tim-M-FLAG</i> plasmid.
Genetic reagent (<i>Drosophila melanogaster</i>)	UAS- <i>tim-cold-FLAG</i>	This paper	NA	Generated by the site-specific PhiC31 Integration System (BestGene)

				using the attP on the 3 rd chromosome of UAS- <i>tim-cold-FLAG</i> plasmid.
Genetic reagent (<i>Drosophila melanogaster</i>)	UAS- <i>tim-L-FLAG</i>	This paper	NA	Generated by the site-specific PhiC31 Integration System (BestGene) using the attP on the 3 rd chromosome of UAS- <i>tim-L-FLAG</i> plasmid.
Genetic reagent (<i>Drosophila melanogaster</i>)	<i>w; tim</i> ⁰¹ ;UAS- <i>tim-sc-FLAG</i>	This paper	NA	UAS- <i>tim-sc-FLAG</i> flies in a <i>tim</i> ⁰¹ background
Genetic reagent (<i>Drosophila melanogaster</i>)	<i>w; tim</i> ⁰¹ ;UAS- <i>tim-L-FLAG</i>	This paper	NA	UAS- <i>tim-L-FLAG</i> flies in a <i>tim</i> ⁰¹ background
Genetic reagent (<i>Drosophila melanogaster</i>)	UAS- <i>luciferase-tim-sc 3'UTR</i>	This paper	NA	Generated by the site-specific PhiC31 Integration System (BestGene) using the attP on the 3 rd chromosome of UAS- <i>luciferase-tim-sc 3'UTR</i> plasmid.
Genetic reagent (<i>Drosophila melanogaster</i>)	UAS- <i>luciferase-tim-M 3'UTR</i>	This paper	NA	Generated by the site-specific PhiC31 Integration System (BestGene) using the attP on the 3 rd chromosome of UAS- <i>luciferase-</i>

				<i>tim-M</i> 3'UTR plasmid.
Genetic reagent (<i>Drosophila melanogaster</i>)	<i>UAS-luciferase-tim-cold</i> 3'UTR	This paper	NA	Generated by the site-specific PhiC31 Integration System (BestGene) using the attP on the 3 rd chromosome of <i>UAS-luciferase-tim-cold</i> 3'UTR plasmid.
Genetic reagent (<i>Drosophila melanogaster</i>)	<i>UAS-luciferase-tim-L</i> 3'UTR	This paper	NA	Generated by the site-specific PhiC31 Integration System (BestGene) using the attP on the 3 rd chromosome of <i>UAS-luciferase-tim-L</i> 3'UTR plasmid.
Genetic reagent (<i>Drosophila melanogaster</i>)	<i>40A (tim-sc mutant)</i>	This paper	NA	<i>Tim-sc</i> CRISPR mutant
Recombinant DNA reagent	pMT-Clk	lab collection Mezan et al. 2016	NA	
Recombinant DNA reagent	pAc-per-V5	Nawathean et al. 2004	NA	
Recombinant DNA reagent	pAc-Tim-L-HA	Nawathean et al. 2004	NA	
Recombinant DNA reagent	pAc-Tim-SC-HA	This paper	NA	Plasmid for overexpression of <i>tim-sc</i> under pAc control
Recombinant DNA reagent	UAS-tim-sc-FLAG	This paper	NA	Plasmid for overexpression of <i>tim-sc</i> tagged with FLAG under UAS control
Recombinant DNA reagent	UAS-tim-M-FLAG	This paper	NA	Plasmid for overexpression of <i>tim-M</i>

				tagged with FLAG under UAS control
Recombinant DNA reagent	UAS-tim-cold-FLAG	This paper	NA	Plasmid for overexpression of <i>tim-cold</i> tagged with FLAG under UAS control
Recombinant DNA reagent	UAS-tim-L-FLAG	This paper	NA	Plasmid for overexpression of <i>tim-L</i> tagged with FLAG under UAS control
Recombinant DNA reagent	UAS-luciferase-tim-sc	This paper	NA	Plasmid for expression of luciferase fused to <i>tim-sc</i> 3'UTR under UAS control
Recombinant DNA reagent	UAS-luciferase-tim-M	This paper	NA	Plasmid for expression of luciferase fused to <i>tim-M</i> 3'UTR under UAS control
Recombinant DNA reagent	UAS-luciferase-tim-cold	This paper	NA	Plasmid for expression of luciferase fused to <i>tim-cold</i> 3'UTR under UAS control
Recombinant DNA reagent	UAS-luciferase-tim-L	This paper	NA	Plasmid for expression of luciferase fused to <i>tim-L</i> 3'UTR under UAS control
Recombinant DNA reagent	pMT-minigene_control	This paper	NA	Plasmid containing exon5-intron5-exon6 (<i>tim-control</i> minigene)

Recombinant DNA reagent	pMT-minigene_tim-sc	This paper	NA	Plasmid containing exon10-intron10-exon11 (tim-sc minigene)
Recombinant DNA reagent	pMT-minigene_tim-M	This paper	NA	Plasmid containing exon13-intron13-exon14 (tim-M minigene)
Recombinant DNA reagent	pMT-minigene_tim-L/cold	This paper	NA	Plasmid containing exon16-intron16-exon17 (tim-cold minigene)
Cell line (<i>Drosophila melanogaster</i>)	S2c1	Laboratory of Michael T. Marr and Rahman et al. 2015	FLYB: FBBrf0232536	RRID:CVCL_I Z06
Antibody	anti-HA (mouse monoclonal)	Roche	12CA5	1:1.000
Antibody	anti-GFP (rabbit polyclonal)	GenScript	A01388	1:1.000
Antibody	anti-TUB (mouse monoclonal)	Sigma	T5168	1:40.000
Antibody	goat anti-rabbit-HRP	Millipore Corp	AP188P	1:10.000
Antibody	rabbit anti-mouse-HRP	Millipore Corp	AP160P	1:10.000
Sequence-based reagent	<i>TimS</i> Common Forward	ACTCACCATTCTCTACAACTTCCT		Generation of minigenes
Sequence-based reagent	<i>TimS</i> Exonic Reverse	CGTTGTTCTTCTTGCTCTGC		Generation of minigenes
Sequence-based reagent	<i>TimS</i> Intronic Reverse	AAATCTTCTGAAATCCTTACCAAACG		Generation of minigenes
Sequence-based reagent	<i>TimM</i> Common Forward	AGCCTTTTGTTCTCCTGCTCC		Generation of minigenes
Sequence-based reagent	<i>TimM</i> Exonic Reverse	TTCAGTGGCGTCGAAC TTGAG		Generation of minigenes
Sequence-based reagent	<i>TimM</i> Intronic Reverse	AACTCACGTTTGTCCAGCGG		Generation of minigenes
Sequence-based reagent	<i>TimCold/RA</i> Common Forward	GACCAGGAGTACAGTGCCATG		Generation of minigenes
Sequence-based reagent	<i>TimCold/RA</i> Exonic Reverse	GATCGTCCTCATCGCTCACAT		Generation of minigenes

Sequence-based reagent	<i>TimCold/RA Intronic Reverse</i>	TGTAACCTATGTGCGA CTCGTT		Generation of minigenes
Sequence-based reagent	TimCont1 Common Forward	CAACATGAAGGGTCTG GTACA		Generation of minigenes
Sequence-based reagent	<i>TimCont1 Exonic Reverse</i>	AGAAGAAGTGCGATGT GTCAA		Generation of minigenes
Sequence-based reagent	TimCont1 Intronic Reverse	GTCCTCATAATAATTTTCTATATCAATATCGAC		Generation of minigenes
Sequence-based reagent	TimCont2 Common Forward	GCAATTCGGCTAAAACATAAAACAG		Generation of minigenes
Sequence-based reagent	TimCont2 Exonic Reverse	AGATGTGATTGTGGAGCTGC		Generation of minigenes
Sequence-based reagent	TimCont2 Intronic Reverse	GGGGTCAACTGATAACGAAC		Generation of minigenes
Sequence-based reagent	CommonF1	CTGCGGCCGCTgaaatcggttATGGACTGGT		Generation of overexpression flies
Sequence-based reagent	CommonF2	CTGCGGCCGCTgaaatcggttATGGACTGGTTACT		Generation of overexpression flies
Sequence-based reagent	timL_RT	ttgtgccgggtgatattaaa		Generation of overexpression flies
Sequence-based reagent	timL_R1	AGGGTACCttgatccTCAGTGATAGTGG		Generation of overexpression flies
Sequence-based reagent	timL_R2	AGGGTACCTCACTTGT CATCGTCATCCTTGTAATCGTGATAGTGGGGCACC		Generation of overexpression flies
Sequence-based reagent	timcold_RT	catgtgaggcgactgagaa		Generation of overexpression flies
Sequence-based reagent	timcold_R1	AGGGTACCcaatcgactcacTCACTTTAATTCC		Generation of overexpression flies
Sequence-based reagent	timcold_R2	AGGGTACCTCACTTGT CATCGTCATCCTTGTAATCCTTTAATTCCTTCTCTTTTCGTACA		Generation of overexpression flies
Sequence-based reagent	timM_RT	acggatttgattcggttc		Generation of

				overexpressi on flies
Sequence-based reagent	timM_R1	AGGGTACCaacggtatatac aTCACCTTTGTGG		Generation of overexpressi on flies
Sequence-based reagent	timM_R2	AGGGTACCTCACTTGT CATCGTCATCCTTGTA TCCCTTTGTGGAATGAC AAATGG		Generation of overexpressi on flies
Sequence-based reagent	timSC_RT	ttagatcaaagattatattgcttata ccc		Generation of overexpressi on flies
Sequence-based reagent	timSC_R1	AGGGTACctccTTACCAA ACGGTATGCTC		Generation of overexpressi on flies
Sequence-based reagent	timSC_R2	AGGGTACCTCACTTGT CATCGTCATCCTTGTA TCCCAAACGGTATGCT CCTGGT		Generation of overexpressi on flies
Sequence-based reagent	w sgRNA-1	Ge et al. 2016		Generation of sgRNA guides for CRISPR
Sequence-based reagent	tim sgRNA-1	ATTTGTGGACCATAAGA ACA		Generation of sgRNA guides for CRISPR
Sequence-based reagent	tim sgRNA-2	AATGACCAAGGAACAC AACC		Generation of sgRNA guides for CRISPR
Sequence-based reagent	PCR1fwd (w guide-1 forward distal)	GCGGCCCCGGGTTCGAT TCCCGGCCGATGCAAT ACCATTCCTGCTCTTTG GGTTTTAGAGCTAGAAA TAGCAAG		Generation of sgRNA guides for CRISPR
Sequence-based reagent	PCR1rev (<i>Tim</i> guide-1 reverse complement)	TGTTCTTATGGTCCACA AATTGCACCAGCCGGG AATCGAACCC		Generation of sgRNA guides for CRISPR
Sequence-based reagent	PCR2fwd (<i>Tim</i> guide-1 forward)	ATTTGTGGACCATAAGA ACAGTTTTAGAGCTAGA AATAGCAAG		Generation of sgRNA guides for CRISPR

Sequence-based reagent	PCR2rev (<i>Tim</i> guide-2 reverse complement distal)	ATTTTAACTTGCTATTT CTAGCTCTAAAACGGTT GTGTTCCCTTGGTCATTT GCACCAGCCGGAATC GAACCC		Generation of sgRNA guides for CRISPR
Commercial assay or kit	Protein G Magnetic beads	NEB	S1430S	
Commercial assay or kit	Dual Luciferase Assay Kit	Promega	E1910	
Commercial assay or kit	TRIzol			
Software, algorithm	Graphpad Prism v7	Graphpad Software	https://www.graphpad.com/	
Software, algorithm	Fiji	NIH	RRID:SCR_002285	
Software, algorithm	R	R Core Team (2014). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria. URL http://www.R-project.org/ .		
Software, algorithm	DeSeq2	Love et al. 2014		
Software, algorithm	MetaCycle	Wu et al. 2016		
Software, algorithm	mFold	Zuker et al. 2003		
Software, algorithm	Sleep and Circadian Analysis MATLAB Program (SCAMP)	Donelson et al. 2012		