

Protein names	Gene names	Sequence coverage [%]
Max-like protein X	Mlx	23.5
WD repeat-containing protein 76	Wdr76	24.8
Epithelial splicing regulatory protein 2	Esrp2	15.5
RNA-binding protein with multiple splicing	Rbpms	35.9
Aryl hydrocarbon receptor nuclear translocator-like protein 1 (Bmal1)	Arntl (Bmal1)	24.3
Transcription factor EB	Tfeb	3
RNA binding protein fox-1 homolog 2	Rbfox2	14.9
Circadian locomotor output cycles protein kaput	Clock	18.7
Membrane-associated progesterone receptor component 1	Pgrmc1	16.4
Nuclease-sensitive element-binding protein 1	Ybx1	29.5
RNA-binding protein 45	Rbm45	50.4
Serine/threonine-protein phosphatase PGAM5, mitochondrial	Pgam5	26.4
RNA-binding protein with multiple splicing 2	Rbpms2	52.4
Carbohydrate-responsive element-binding protein	Mlxipl	7.4
2,4-dienoyl-CoA reductase, mitochondrial	Decr1	33.7

Supplementary Table 1 List of statistically significant E-box-associated proteins (FDR < 0.05) identified in LC-MS/MS pilot study from E-box oligonucleotide affinity purification from mouse livers harvested at CT6 (see **Supplementary Figure 1**). Proteins are ordered by significance, with highest significance at top. Blue highlight indicates the subset of proteins that were also significantly (FDR < 0.05) dependent on the presence of Bmal1. Identification of Bmal1 and Clock validated the approach; identification of Wdr76 provided a link to the Ddb1–Cul4 E3 ubiquitin ligase.

Chromosome	Genome coordinates		Gene name/symbol
chr2	163366401	163366691	0610008F07Rik
chr5	113581991	113582471	2900026A02Rik
chr4	128623971	128624330	Adc
chr5	90989841	90990240	Afm
chr4	141297801	141298260	Agmat
chr6	42319951	42320331	AK008560
chr2	167829081	167829361	AK027991
chr5	149806711	149807071	AK036974
chr5	149790031	149790480	AK036974
chr1	88929011	88929330	AK077157
chr14	70026971	70027270	AK086749
chr13	44401561	44402001	AK136877
chr11	31724481	31724991	AK158188
chr11	31738391	31738780	AK158188
chr15	64176561	64176961	Asap1
chr12	113334401	113334771	Aspg
chr3	101609301	101609661	BC037703
chr19	3833151	3833380	Chka
chr2	92263781	92264241	Cry2
chr2	92261861	92262141	Cry2
chr19	46742651	46743210	Cyp17a1
chr18	68221771	68222150	D18Erttd653e
chr7	52960041	52960800	Dbp
chr7	52962911	52963280	Dbp
chr7	52961331	52961720	Dbp
chr5	73865701	73865971	Dcun1d4
chr1	135258831	135259130	Etnk2
chr1	135272491	135272940	Etnk2
chr1	135268711	135269130	Etnk2
chr5	93014891	93015381	Fam47e
chr8	126789671	126790230	Galnt2
chr11	20353801	20354161	Gm12034
chr3	95685851	95686541	Gm129
chr3	95686011	95686550	Gm129
chr7	6362751	6363090	Gm16532
chr19	26839821	26840171	Gm815
chr9	107577321	107577601	Gnat1
chr9	107576751	107577191	Gnat1
chr8	96911371	96911610	Herpud1
chr19	42119751	42120131	Hoga1
chr12	25917451	25917950	Id2

chr6	55125921	55126440	Inmt
chr8	129137901	129138400	Irf2bp2
chr6	146219651	146220170	Itpr2
chr6	94949001	94949351	Kbtbd8
chr19	23564161	23564581	Mamdc2
chr5	138227911	138228240	Mepce
chr16	4896661	4897130	Mgrn1
chr1	186648361	186648761	Mir1981
chr6	49992021	49992600	Mpp6
chr15	25621931	25622380	Myo10
chr7	56607151	56607670	Nav2
chr15	58830621	58831061	Ndufb9
chr13	53070031	53070590	Nfil3
chr11	98634931	98635311	Nr1d1
chr11	98636441	98637151	Nr1d1
chr11	98644521	98645140	Nr1d1
chr11	98635321	98635630	Nr1d1
chr15	84753211	84753690	Nup50
chr16	87610431	87610820	ORF63
chr11	68908511	68908970	Per1
chr11	68908231	68908501	Per1
chr11	68912171	68912391	Per1
chr1	93355841	93356161	Per2
chr3	41368401	41368720	Phf17
chr5	136150701	136151140	Por
chr15	85601691	85602121	Ppara
chr18	61533561	61533990	Ppargc1b
chr18	61517251	61517750	Ppargc1b
chr3	78887011	78887271	Rapgef2
chr1	155544761	155545150	Rgs16
chr14	69880961	69881281	Slc25a37
chr17	5893111	5893540	Synj2
chr8	122128861	122129300	Taf1c
chr7	104572261	104572641	Thrsp
chr3	146252381	146252980	Uox
chr2	58607051	58607690	Upp2
chr11	118126941	118127480	Usp36

Supplementary Table 2 List of 78 validated Clock–Bmal1 binding sites from mouse liver, as described in text (also see **Online Methods, Figure 3**). Sites are ordered alphabetically by gene name/symbol.

Chromosome	Genome coordinates		Gene name/symbol
chr2	4498551	4498820	2010003K11Rik
chr13	106450941	106451460	Acot11
chr4	116060461	116060740	Acox1
chr11	9091751	9092220	Acox2
chr19	66701541	66701861	Adam2
chr11	95029411	95029660	Agxt
chr1	54129511	54129860	AK020588
chr14	10347731	10348210	AK028773
chr19	126826491	126826710	AK029402
chr17	39756491	39756740	AK029768
chr4	129058251	129058560	AK042900
chr7	129153851	129154040	AK139522
chr1	144550451	144550770	AK147071
chr12	86479021	86479201	AK157878
chr14	92934761	92935040	AK158157
chr2	128660971	128661250	Ak2
chr4	81468781	81469180	AK200600
chr15	90494441	90495000	Aldh1l1
chr16	122041691	122042030	Aldh2
chr12	46064871	46065280	Apoa5
chr1	27416321	27416540	BC050122
chr6	27452551	27452920	BC050122
chr14	52823551	52823970	Bcat2
chr4	151235921	151236251	Camta1
chr3	142363831	142364230	Ccbl2
chr17	66766321	66766790	Chrna2
chr6	129125641	129125990	Clec2d
chr9	55109311	55109520	Coq10b
chr4	3326341	3326880	Cpt1a
chr15	111470131	111470340	Dio3os
chr8	182935521	182935930	Ephx1
chr1	25359121	25359480	Ethe1
chr2	135268641	135268961	Etnk2
chr15	91753151	91753530	Fah
chr7	140918991	140919320	Fam131c
chr13	124087101	124087450	Fbxo31
chr5	77878721	77879220	Gcm1
chr1	128118041	128118540	Glt1d1
chr3	160075421	160075910	Gm826
chr5	141271171	141271431	Gna12
chr11	115885891	115886170	H3f3b
chr11	123631481	123631951	Hpd
chr16	36131931	36132200	Hs6st1

chr6	126792431	126792750	Inhbe
chr15	69195901	69196250	Khdrbs3
chr11	85792071	85792460	Lin52
chr1	97219501	97219891	Lmod3
chr7	49508221	49508580	LOC100415784
chr2	85272881	85273280	Lrpprc
chr12	169317491	169317720	Mgst3
chr4	72219981	72220290	Mreg
chr1	52532041	52532360	Ndrg2
chr13	35545911	35546270	Pank3
chr4	32694301	32694581	Papss2
chr14	120478351	120478710	Pcyt2
chr17	86316881	86317220	Plin2
chr5	107739301	107739481	Podn
chr3	88498261	88498710	Pomt2
chr2	85602261	85602690	Ppara
chr9	5136671	5136970	Ppl
chr1	57494901	57495270	Ppm1k
chr12	163198271	163198540	Prdx6
chr7	99424941	99425180	Prkg2
chr8	18083521	18083731	Prodh
chr14	90405411	90405920	Ptprj
chr6	120937101	120937460	Rassf3
chr3	155526311	155526620	Rgs8
chr19	27103831	27104150	Sardh
chr1	107798991	107799400	Scp2
chr9	134419931	134420320	Sephs2
chr5	149172871	149173131	Slc25a33
chr1	69881051	69881350	Slc25a37
chr5	98357361	98357701	Slc38a7
chr5	84691321	84691750	Slc43a1
chr11	54356861	54357141	Stim2
chr4	59898701	59899010	Sucnr1
chr16	79562081	79562300	Sun2
chr6	61226881	61227350	Tle3
chr5	79220921	79221320	Tmem184b
chr10	8410371	8410620	Tns3
chr5	125873651	125873880	Ubc
chr8	90282511	90282861	Uroc1

Supplementary Table 3 List of 85 Cbp (P300) binding sites from mouse liver²⁸ that do not overlap with Clock–Bmal1 sites, as described in text (also see **Online Methods, Figure 3**). Sites are ordered alphabetically by gene name/symbol.