Supplementary Online Material

Genetic interaction of *Per1* and *Dec1/2* in the regulation of circadian locomotor activity

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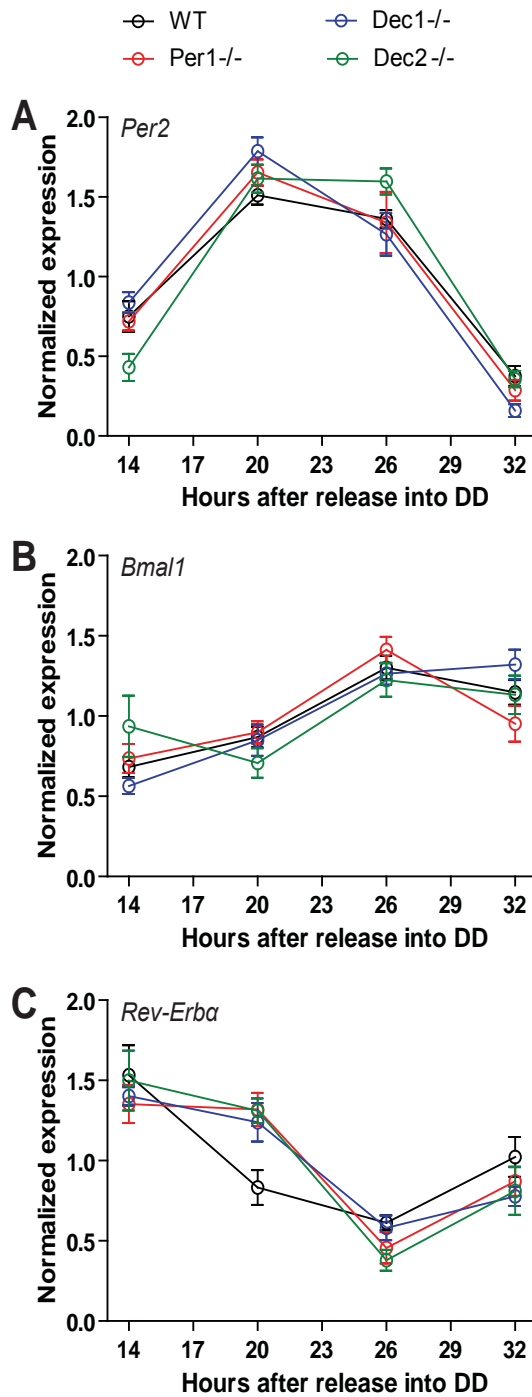
Bode et al. Figure S1. In situ hybridization (ISH) profiles of clock gene expression in the SCN.
Normalized expression of (A) Per2, (B) Bmal1 and (C) Rev-Erbα mRNA in the SCN in
DD of wild-type (WT; black line), Per1-/- (red line), Dec1-/- (blue line) and Dec2-/- (green
line) mice. Data are normalized to the average expression in wild-types and double
plotted for visual clarity. All values are means ± SEM (n = 3).

Bode et al. Table S1: Statistics of behavioral paradigms

Tested parameter	Genotype comparison →	Per1-/-	Dec1-/-	Dec2-/-	Per1-/-Dec1-/-	Per1-/-Dec2-/-	Dec1/2-/-	Per1-/-Dec1/2-/-
Onset in LD	WT	***	ns	ns	***	***	***	***
	Per1-/-		ns	***	***	ns	ns	***
	Dec1-/-			*	***		ns	***
	Dec2-/-					***	***	***
	Per1-/-Dec1-/-					***	*	**
	Per1-/-Dec2-/-						ns	***
	Per1-/-Dec1/2-/-						***	
Onset variation in LD	WT	**	ns	ns	***	***	***	***
	Per1-/-		ns	ns	*	ns	ns	***
	Dec1-/-			ns	***		***	***
	Dec2-/-					ns	**	***
	Per1-/-Dec1-/-					ns	ns	**
	Per1-/-Dec2-/-						ns	***
	Per1-/-Dec1/2-/-						*	
Period length in DD	WT	***	***	ns	***	***	ns	***
	Per1-/-		***	***	ns	ns	***	***
	Dec1-/-			***	***		ns	***
	Dec2-/-					***	ns	***
	Per1-/-Dec1-/-					ns	***	***
	Per1-/-Dec2-/-						***	***
	Per1-/-Dec1/2-/-						***	
Period length variation in DD	WT	*	ns	ns	***	***	*	***
	Per1-/-		ns	ns	ns	ns	ns	ns
	Dec1-/-			ns	*		ns	***
	Dec2-/-					***	ns	***
	Per1-/-Dec1-/-					ns	ns	ns
	Per1-/-Dec2-/-						ns	ns
	Per1-/-Dec1/2-/-						ns	
Period length in LL	WT	***	ns	ns	***	***	ns	***
	Per1-/-		***	***	ns	ns	*	***
	Dec1-/-			ns	***		ns	***
	Dec2-/-					***	ns	***
	Per1-/-Dec1-/-					ns	***	ns
	Per1-/-Dec2-/-						***	*
	Per1-/-Dec1/2-/-						***	

ns = not significant   * p ≤ 0.05   ** p ≤ 0.01   *** p ≤ 0.001

Bode et al. Table S2: Statistics of reporter gene assay

Tested parameter	Expression plasmid comparison ↓ →	Bmal1::luc, Per1	Bmal1::luc, Dec1	Bmal1::luc, Dec2	Bmal1::luc, Per1, Dec1	Bmal1::luc, Per1, Dec2	Bmal1::luc, Per1, Dec1, Dec2
Reporter gene assay	**Bmal1::luc**	ns	***	***	***	***	***
	Bmal1::luc, Per1		***	***	***	***	***
	Bmal1::luc, Dec1			***	ns		***
	Bmal1::luc, Dec2					ns	***
	Bmal1::luc, Per1, Dec1					***	***
	Baml1::luc, Per1, Dec2						***

ns = not significant   * p ≤ 0.05   ** p ≤ 0.01   *** p ≤ 0.001

Tested parameter	Expression plasmid comparison	↓ →	Bmal1::luc, Rev-Erb alpha	Bmal1::luc, Rev-Erb alpha, Per1	Bmal1::luc, Rev-Erb alpha, Dec1	Bmal1::luc, Rev-Erb alpha, Dec2	Bmal1::luc, Rev-Erb alpha, Per1, Dec1	Bmal1::luc, Rev-Erb alpha, Per1, Dec2	Bmal1::luc, Rev-Erb alpha, Per1, Dec1, Dec2
Reporter gene assay	Bmal1::luc		***	***	***	ns	***	**	ns
	Bmal1::luc, Rev-Erb alpha			ns	***	***	**	***	***
	Bmal1::luc, Rev-Erb alpha, Per1				***	***	**	***	***
	Bmal1::luc, Rev-Erb alpha, Dec1						ns	ns	***
	Bmal1::luc, Rev-Erb alpha, Dec2				***		***	**	ns
	Bmal1::luc, Rev-Erb alpha, Per1, Dec1							***	***
	Baml1::luc, Rev-Erb alpha, Per1, Dec2								*

ns = not significant   * p ≤ 0.05   ** p ≤ 0.01   *** p ≤ 0.001