Supplemental Figures

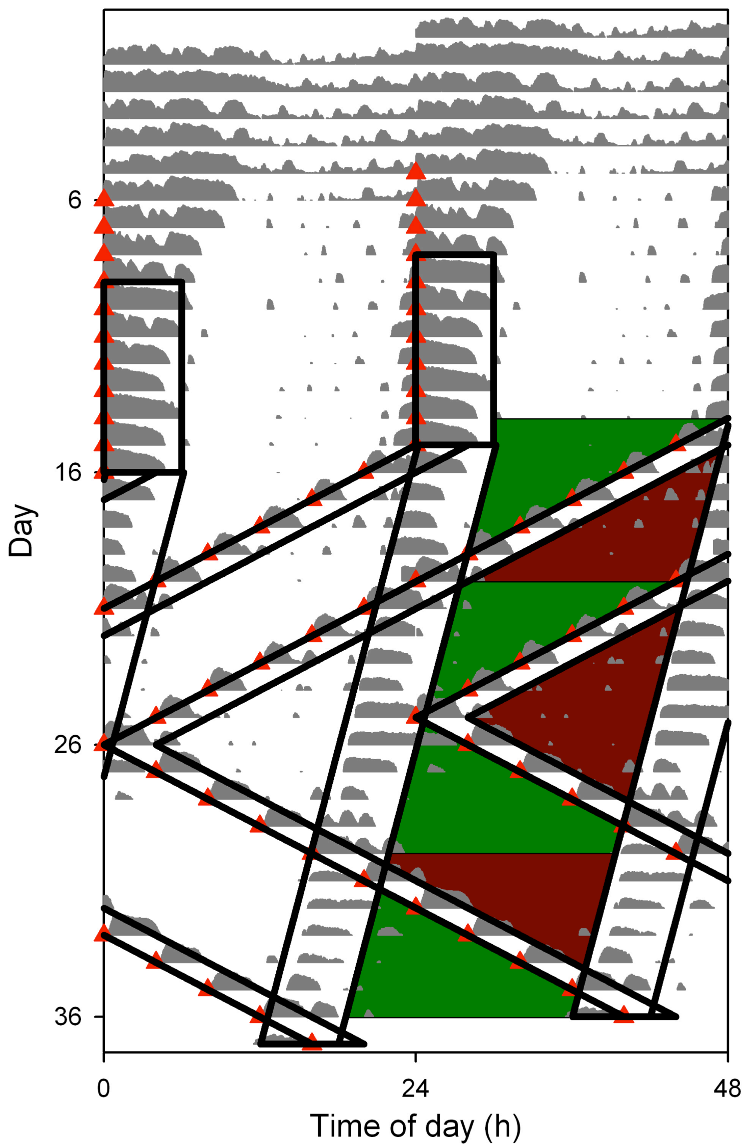

Fig. S1. Example of subdivision of resting phase portions in a wild type mouse exposed to discordant feeding cycles with different periods. Double-plotted actogram of body temperature above 36.5 °C (grey bars) and feeding times (red triangles) of a wild type mouse exposed to feeding cycles with different periods. Enclosed by black lines are the circadian active phase (6 circadian hours per day) and the daily feeding bout (4 hours following feeding). The resting phase is subdivided in portions preceded by the circadian active phase (green) or feeding bouts (red). The indicated portions were used to calculate the proportion of time spent in torpor during resting phase portions preceded by the circadian active phase or feeding (Fig. 3A).

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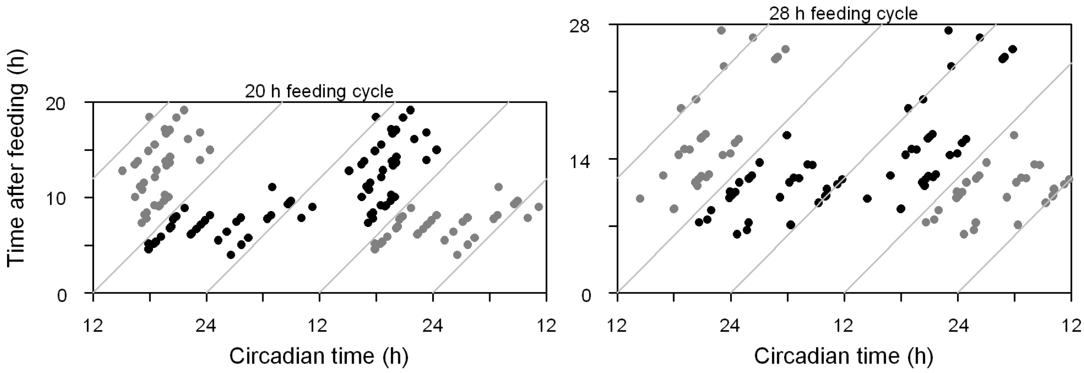

Fig. S2. Relationship between the circadian time and time after feeding at the onset of the first torpor bout in each discordant feeding cycle (20, 28 h T-cycles) in wild type mice. Torpor typically started within a few hours of feeding when feeding occurred during the circadian active phase (CT 12-24) but was delayed until after the circadian active phase when feeding occurred during the circadian resting phase (CT 0-12). Data are double plotted (1x black, 1x grey) to ease visualization. Diagonal grey lines indicate the progression of time for a circadian period of exactly 24 h. Time progresses from bottom-left to top-right.

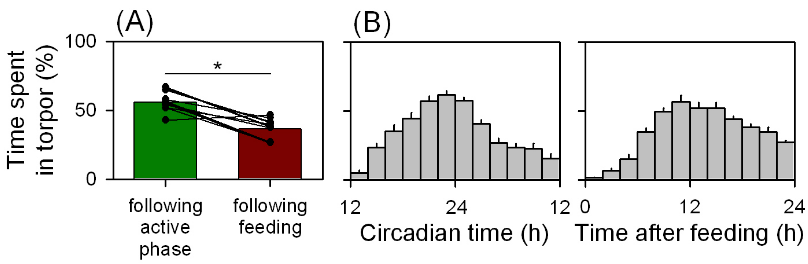

Fig. S3. Quantifications of the timing of torpor in long-period (*Vgat-Cre*$^{+}$ *CK1δ*$^{fl/fl}$ *ε*$^{fl/+}$) mice. (A) Endogenously long-period mice spent a significantly larger portion of time in torpor during intervals preceded by the circadian active phase (green) than following feeding bouts (red). Connected dots indicate repeated measurements of the same animal. (B) The proportion of time spent in torpor at all phases of the circadian (left) and feeding cycle (right) in long-period mice exposed to a 24 h feeding cycle. By definition a circadian cycle lasts 24 circadian hours with CT 12 indicating the onset of activity. Data is binned in 2 h intervals. Bars graphs are mean ± SEM.

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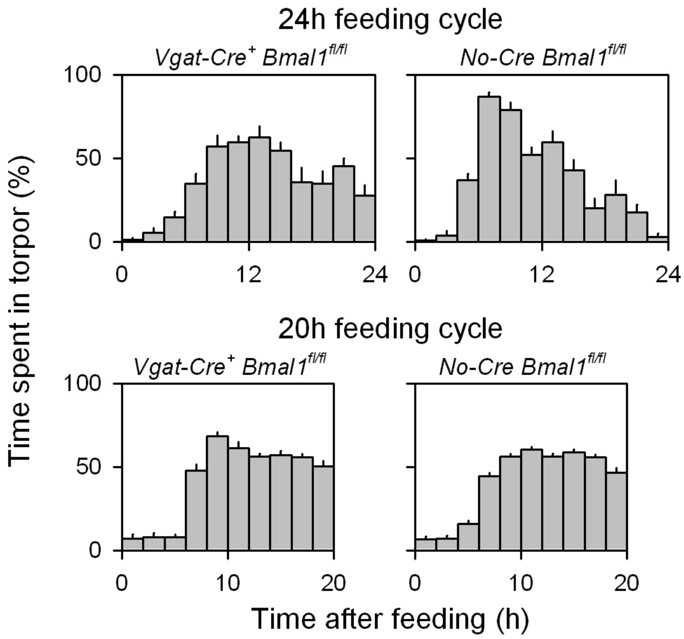

Fig. S4. Phase of torpor in mice lacking a central clock and rhythmic controls. The portion of time spent in torpor by mice lacking a central clock (*Vgat-Cre*$^{+}$ *Bmal1*$^{fl/fl}$; left) and rhythmic controls (*No-Cre Bmal1*$^{fl/fl}$; right) at all phases of 24 h (top) and 20 h (bottom) feeding cycle. Data is binned in 2 h intervals. The circadian modulation of torpor in control mice exposed to a 24 h feeding cycle is absent in mice lacking a central clock or when exposed to a 20 h feeding cycle. Bars graphs are mean ± SEM.

Dataset 1

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