<table>
<thead>
<tr>
<th>Genotype</th>
<th>Behavioral period (h)</th>
<th>Rhythmic slices/total [%]</th>
<th>Rhythmic Period curvefit (h)</th>
<th>Estimated Period Peak to Peak (h)</th>
<th>Peak width day 1 (h)</th>
<th>Peak width day 2 (h)</th>
<th>Rhythmic cells/total [%]</th>
<th>Estimated Period curvefit (h)</th>
<th>Estimated Period Peak to Peak (h)</th>
<th>Peak width day 1 (h)</th>
<th>Peak width day 2 (h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WT</td>
<td>23.8 ± 0.1</td>
<td>8/8 [100.0]</td>
<td>23.8 ± 0.3</td>
<td>24.1 ± 0.5</td>
<td>6.8 ± 1.1</td>
<td>6.6 ± 0.9</td>
<td>20/22 [90.9]</td>
<td>23.6 ± 0.4</td>
<td>23.6 ± 0.4</td>
<td>3.9 ± 0.6</td>
<td>3.1 ± 0.5</td>
</tr>
<tr>
<td>arrhythmic</td>
<td>0/6 [0.0]</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>3/16 [18.8]</td>
<td>24.6 ± 4.2</td>
<td>23.5 ± 3.8</td>
<td>8.5 ± 2.1</td>
<td>6.6 ± 2.7</td>
</tr>
<tr>
<td>Vipr2⁻/⁻</td>
<td>22.2 ± 0.5</td>
<td>6/6 [100.0]</td>
<td>21.6 ± 1.2</td>
<td>22.0 ± 1.1</td>
<td>6.7 ± 1.7</td>
<td>7.2 ± 1.0</td>
<td>16/21 [76.2]</td>
<td>22.1 ± 0.6</td>
<td>22.7 ± 0.7</td>
<td>5.1 ± 0.8</td>
<td>4.2 ± 0.6</td>
</tr>
</tbody>
</table>

Table S1. Parameters of single and multi-unit SCN recordings from behaviorally phenotyped mice. Two different methods of estimating periodicity in single and multiunit firing patterns (see materials and methods for details) produce similar results that closely correspond to the periodicity in locomotor activity measured for behaviorally phenotyped adult WT and Vipr2⁻/⁻ mice. The widths of multiunit peaks (an indirect measure of cellular synchrony) are in good agreement with those previously reported (Schaap et al, 2003) and do not differ between WT and behaviorally rhythmic Vipr2⁻/⁻ mice (t-tests: P > 0.05).