**Supplemental Digital Content 1**

**General Analysis Report of Regional Cerebral Blood Flow**

**Trace**

![Trace graph]

**Calculations**

<table>
<thead>
<tr>
<th>Item</th>
<th>1 PU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean value (Unit)</td>
<td>176.47</td>
</tr>
<tr>
<td>Standard Deviation (Unit)</td>
<td>131.53</td>
</tr>
<tr>
<td>Standard Error (Unit)</td>
<td>0.31</td>
</tr>
<tr>
<td>Maximum value (Unit)</td>
<td>585.18</td>
</tr>
<tr>
<td>Minimum value (Unit)</td>
<td>33.17</td>
</tr>
<tr>
<td>First value (Unit)</td>
<td>350.77</td>
</tr>
<tr>
<td>Last value (Unit)</td>
<td>178.65</td>
</tr>
<tr>
<td>Percent change first to last value (%)</td>
<td>-49.07</td>
</tr>
<tr>
<td>Area under curve (Unit*sec.)</td>
<td>992678.70</td>
</tr>
<tr>
<td>Slope (Unit/sec.)</td>
<td>-0.04</td>
</tr>
<tr>
<td>Duration (sec.)</td>
<td>5625.14</td>
</tr>
<tr>
<td>Relative start time (hh:mm:ss.fr)</td>
<td>00:00:23.89</td>
</tr>
<tr>
<td>Relative stop time (hh:mm:ss.fr)</td>
<td>01:34:09.04</td>
</tr>
</tbody>
</table>

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Date/Time 2015/4/21
**Figure 1.** Schematic showing of the ischemic penumbra during middle cerebral artery occlusion (MCAO).

<table>
<thead>
<tr>
<th>Time after I/R injury</th>
<th>Sacrificed animals</th>
<th>Dead animals</th>
</tr>
</thead>
<tbody>
<tr>
<td>24h</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>7d</td>
<td>6</td>
<td>1</td>
</tr>
</tbody>
</table>

**Table 1.** N numbers of middle cerebral artery occlusion (MCAO) animals in experiment 1.

<table>
<thead>
<tr>
<th>Infarct measurement</th>
<th>N numbers of animals</th>
<th>Excluded animals</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCAO</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>control-siRNA</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>TREM2-siRNA</td>
<td>6</td>
<td>2 (samples of brain tissue was damaged)</td>
</tr>
</tbody>
</table>

**Table 2.** Excluded data of 2,3,5-triphenyltetrazolium chloride staining in experiment 5.