

**Supplementary 1.****Wilcoxon signed ranks test on rotarod data on MCAO+HIIT group.**

|             | <b>Z</b>            | <b>p-value</b> |
|-------------|---------------------|----------------|
| D+1 vs D-1  | -.507 <sup>c</sup>  | 0.612          |
| D+7 vs D+1  | -1.352 <sup>d</sup> | 0.176          |
| D+7 vs D-1  | -.524 <sup>d</sup>  | 0.600          |
| D+13 vs D+7 | -1.363 <sup>d</sup> | 0.173          |
| D+13 vs D+1 | -2.366 <sup>d</sup> | 0.018          |
| D+13 vs D-1 | -1.859 <sup>d</sup> | 0.063          |

<sup>c</sup>Based on negative ranks; <sup>d</sup>Based on positive ranks.**Supplementary 2.****Wilcoxon signed rank test on SLHR data on MCAO and MCAO+HIIT groups.**

|             | <b>Groups</b> | <b>Z</b>            | <b>p-value</b> |
|-------------|---------------|---------------------|----------------|
| D+1 vs D-1  | MCAO          | -.105 <sup>c</sup>  | 0.917          |
|             | MCAO+HIIT     | -1.997 <sup>c</sup> | 0.046          |
| D+7 vs D+1  | MCAO          | -.314 <sup>c</sup>  | 0.753          |
|             | MCAO+HIIT     | -1.753 <sup>d</sup> | 0.080          |
| D+7 vs D-1  | MCAO          | -.507 <sup>c</sup>  | 0.612          |
|             | MCAO+HIIT     | -.105 <sup>d</sup>  | 0.916          |
| D+13 vs D+7 | MCAO          | -2.197 <sup>d</sup> | 0.028          |
|             | MCAO+HIIT     | -1.521 <sup>d</sup> | 0.128          |
| D+13 vs D+1 | MCAO          | -2.236 <sup>d</sup> | 0.018          |
|             | MCAO+HIIT     | -2.366 <sup>d</sup> | 0.018          |
| D+13 vs D-1 | MCAO          | -1.690 <sup>d</sup> | 0.091          |
|             | MCAO+HIIT     | -1.524 <sup>d</sup> | 0.128          |

<sup>c</sup>Based on negative ranks; <sup>d</sup>Based on positive ranks.

### Supplementary 3.

Wilcoxon signed rank test on SLFR data on MCAO and MCAO+HIIT groups.

|             | Groups    | Z                   | p-value |
|-------------|-----------|---------------------|---------|
| D+1 vs D-1  | MCAO      | -.406 <sup>c</sup>  | 0.684   |
|             | MCAO+HIIT | -1.690 <sup>c</sup> | 0.091   |
| D+7 vs D+1  | MCAO      | -.405 <sup>d</sup>  | 0.686   |
|             | MCAO+HIIT | -2.207 <sup>d</sup> | 0.027   |
| D+7 vs D-1  | MCAO      | -.085 <sup>c</sup>  | 0.933   |
|             | MCAO+HIIT | -.507 <sup>c</sup>  | 0.612   |
| D+13 vs D+7 | MCAO      | -2.028 <sup>d</sup> | 0.043   |
|             | MCAO+HIIT | -1.521 <sup>d</sup> | 0.128   |
| D+13 vs D+1 | MCAO      | -2.371 <sup>d</sup> | 0.018   |
|             | MCAO+HIIT | -1.859 <sup>d</sup> | 0.063   |
| D+13 vs D-1 | MCAO      | -2.197 <sup>d</sup> | 0.028   |
|             | MCAO+HIIT | -1.219 <sup>d</sup> | 0.223   |

<sup>c</sup>Based on negative ranks; <sup>d</sup>Based on positive ranks.

### Supplementary 4.

Bonferroni post-hoc analysis on neuron density.

| Groups 1  | Group 2    | Mean Difference (J-J) | Std. Error | p-value |
|-----------|------------|-----------------------|------------|---------|
| Sham      | MCAO       | .0038857*             | .0003339   | <0.001  |
|           | MCAO+MIIT  | .0029714*             | .0003339   | <0.001  |
|           | MCAO+HIIT  | .0001714              | .0003339   | 1.000   |
| MCAO      | Sham       | -.0038857*            | .0003339   | <0.001  |
|           | MCAO+MIIT  | -.0009143             | .0003339   | 0.069   |
|           | MCAO+HIIT  | -.0037143*            | .0003339   | <0.001  |
| MCAO+MIIT | Sham       | -.0029714*            | .0003339   | <0.001  |
|           | MCAO       | .0009143              | .0003339   | 0.069   |
|           | MCAO +HIIT | -.0028000             | .0003339   | <0.001  |
| MCAO+HIIT | Sham       | -.0001714             | .0003339   | 1.000   |
|           | MCAO       | .0037143*             | .0003339   | <0.001  |
|           | MCAO+HIIT  | .0028000*             | .0003339   | <0.001  |

\*The mean difference is significant if  $p < 0.05$ .