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## ACCEPTED MANUSCRIPT

### Voluntary wheel running ameliorates depression-like behaviors and brain blood oxygen level-dependent signals in chronic unpredictable mild stress mice

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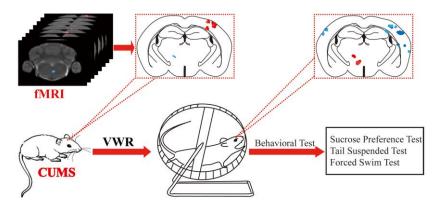
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**Graphical Abstract:** A model depicting the physical activity by wheel running ameliorated depression-like behavior and improves brain BOLD signals in CUMS induced depression mice.



#### Highlights

- Few animal imaging studies have been undertaken to address the impact of physical activity on brain function of depression.
- BOLD-based fMRI was used to examine the brain functional changes induced by physical activity in CUMS animal models.

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