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# ACCEPTED MANUSCRIPT

### The role of the serotonergic system in motor control

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## **Highlights**

- -Studies on the role of serotonergic system in motor control are summarized.
- -Effect of serotonin varies depending on the type of 5-HT receptor in the target.
- Genetic tracing method revealed its connectivity with other brain regions
- -Large-scale neural activity imaging revealed its internal sensorimotor computation
- The serotonergic system may modulate motor control independent of its other functions

#### Abstract:

The serotonergic system in the vertebrate brain is implicated in various behaviors and diseases. Its involvement in motor control has been studied for over half a century, but efforts to build a unified model of its functions have been hampered due to the complexity of serotonergic neuromodulation. This review summarizes the anatomical

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