

Treatment of Traumatic Brain Injury with Tissue Plasminogen Activator Promotes Neurological Recovery After Traumatic Brain Injury in Rats

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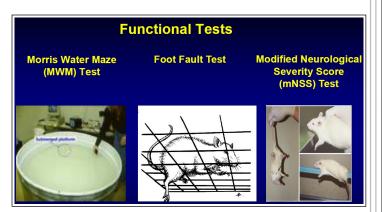
Introduction

Traumatic brain injury (TBI) remains a leading cause of mortality and morbidity worldwide.

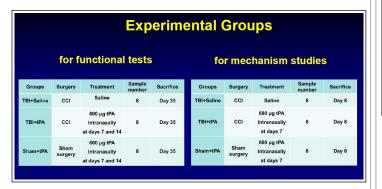
Recombinant human tissue plasminogen activator (tPA) participates in synaptic plasticity, dendritic remodeling and axonal outgrowth in the developing and injured CNS.

Previous studies showed that tPAadministrated intranasally during the subacute phase of experimental stroke in rats provides beneficial effects on stroke.

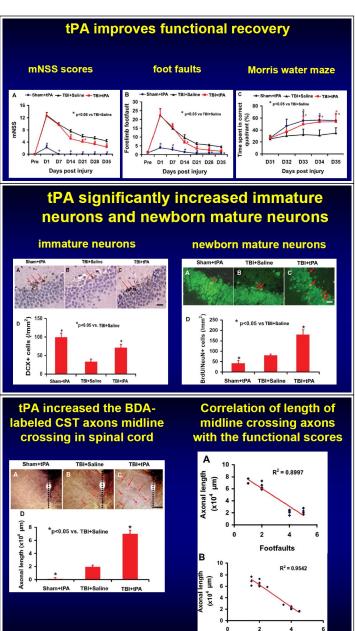
The present study investigates the therapeutic effect of tPA on functional recovery and its underlying mechanism.



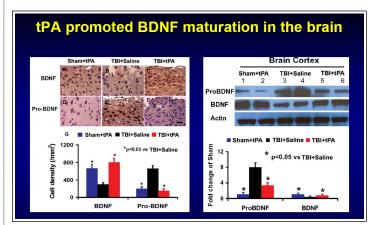
Methods



Results



Results (contd.)



Conclusions

The present study demonstrates that intranasal administration of tPA after TBI significantly improves functional recovery and enhances brain neurogenesis and spinal cord axonal remodeling

These beneficial effects of tPA is likely associated with tPAplasmin-deendent maturation of BDNF

These findings suggest that tPA holds potential for a noninvasive neurorestorative treatment for subacute TBI