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Diabetic neuropathic pain improvement by inhibition of constitutive 5HT₆ receptor activity in rats - TH17

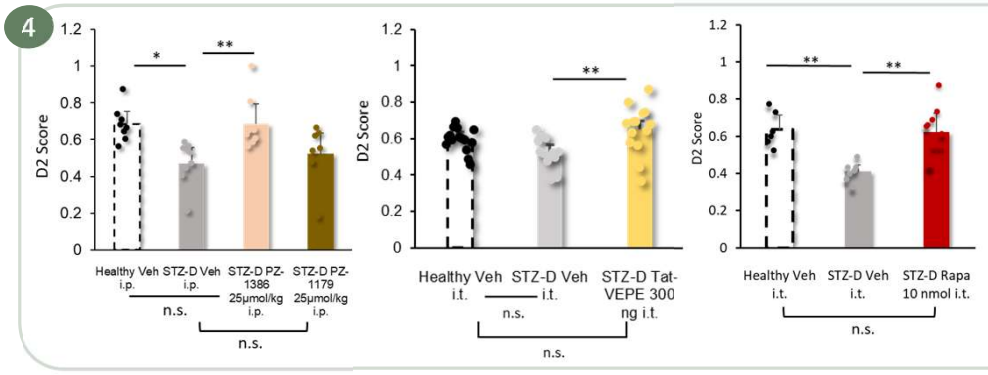
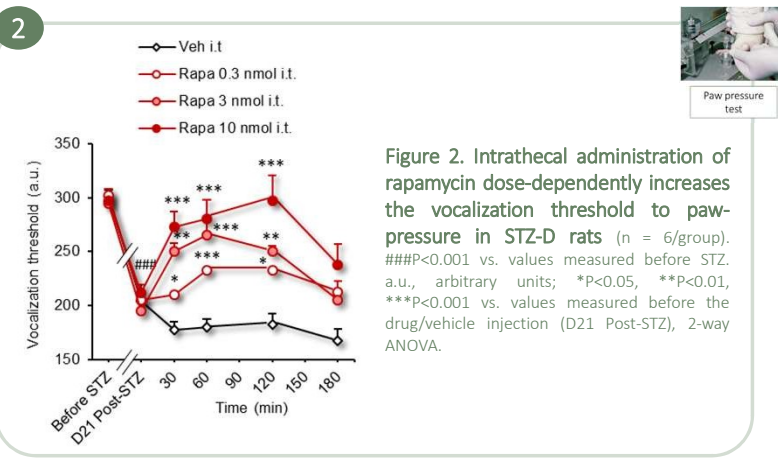
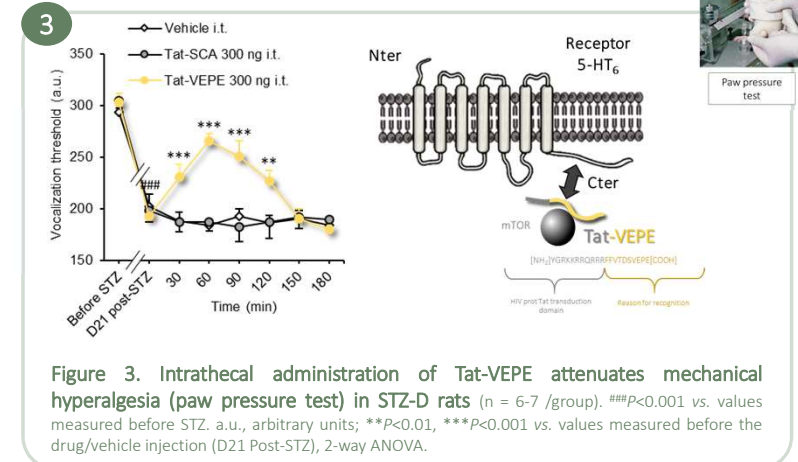
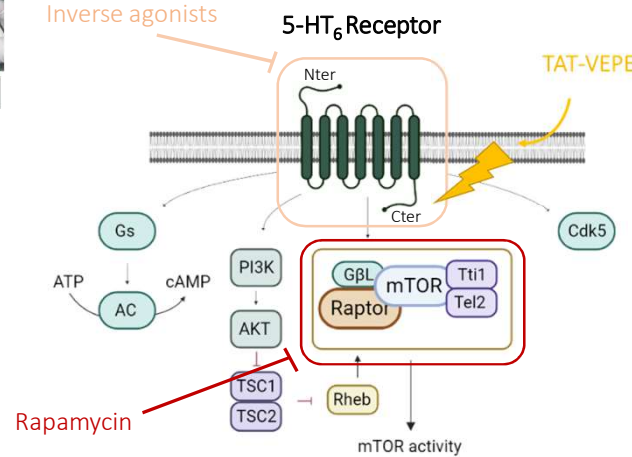
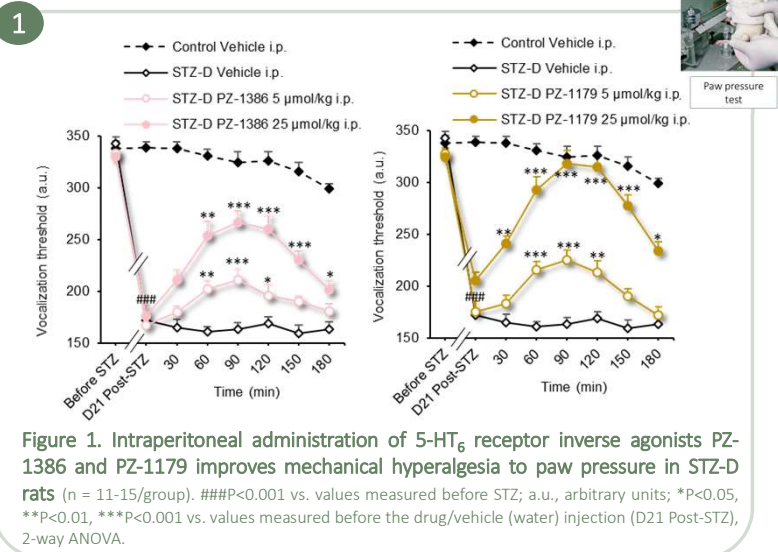
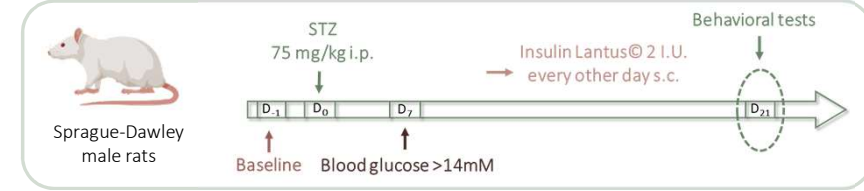
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Background

Chronic neuropathic pain affects 20% of patients with type 1 and 2 diabetes mellitus. In these patients, neuropathic pain is often associated with **cognitive deficits** and decreased quality of life. The **serotonin type 6 (5-HT₆)** receptor has recently emerged as a modulator of chronic pain and cognitive functions. The 5-HT₆ receptor interacts with intracellular proteins including **mTOR** (mechanistic Target Of Rapamycin), also involved in neuropathic pain and in the regulation of cognitive functions. The present study addresses the involvement of 5-HT₆ receptor constitutive activity and mTOR signaling in neuropathic pain in the experimental model of streptozocin (STZ)-induced diabetic (D) rats.



Conclusion

These results suggest that the constitutive activity of the 5-HT₆ receptor has a harmful influence in **diabetic neuropathic pain**. Thus, **targeting 5-HT₆ receptor/mTOR complex activity** or 5-HT₆ receptors with inverse agonists represents new strategies to treat **painful diabetic neuropathy** and associated **cognitive co-morbidities**.