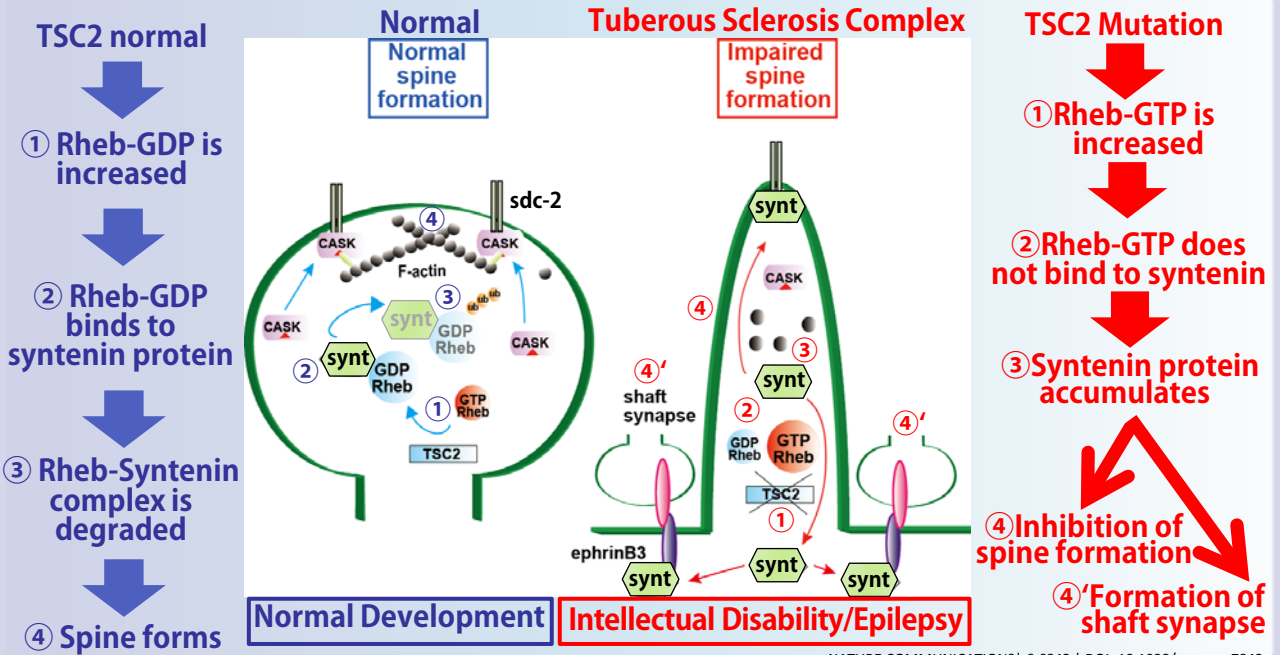


A Drug Candidate Compound for Autism and Intellectual Disability

1. Summary

We found a protein that regulates dendritic spine formation in hippocampal neurons. Administration of Compound X to the TSC model mice restored impaired spine formation, memory deficits and social abnormalities.

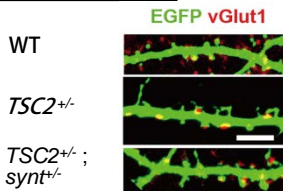
2. Mechanism of Impaired Spine Formation



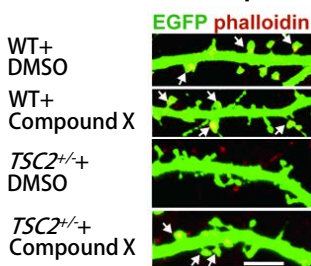
3. Experiment Results

Restoration of spine formation

Down regulation of syntenin in *TSC2*^{+/-} neurons

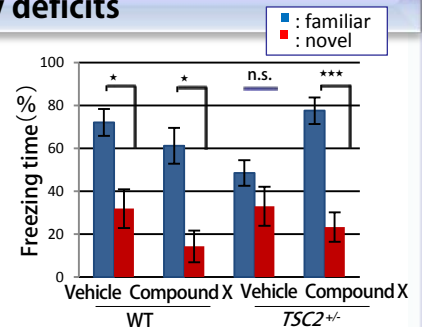
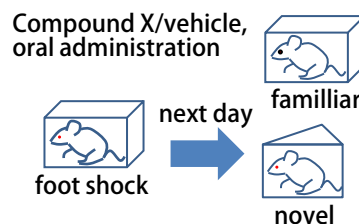


Administration of compound X



Improvement of memory deficits

Contextual fear discrimination test



Recovery of social behavior

Three chamber test

