**Antidepressant effects of TAT-homer1a and TAT-mGluR5 peptide**

- **Intravenous injections of TAT-homer1a**
  - Open Field Test (OF)
    - Significant decrease in distance traveled.
  - Tail Suspension Test (TST)
    - Reduction in immobility time.
  - Forced Swim Test (FST)
    - Decreased immobility time.

- **Intravenous injections of TAT-mGluR5**
  - Open Field Test (OF)
    - No significant change in distance traveled.
  - Tail Suspension Test (TST)
    - No significant change in immobility time.
  - Forced Swim Test (FST)
    - No significant change in immobility time.

**Ligand-independent activation of mGluR5**

- TAT-homer1a disrupts mGluR5-homer1b/c interactions and increases mGluR5 signaling towards pAkt/pTOR/p70S6K in acute brain slices.

- TAT-homer1a causes ligand-independent activation of mGluR5.

**Inhibition of NMDA receptors**

- TAT-homer1a inhibits NMDA receptor calcium currents in a mGluR5-dependent manner.

- TAT-mGluR5Ac5t inhibits NMDA receptor calcium currents.

**Modulation of AMPA receptors**

- TAT-homer1a modulates phosphorylation and synaptic distribution of AMPA receptors.

- TAT-homer1a increases calcium permeability of AMPA receptors.