



- ◆ Glutamate
- ▲ GABA<sub>A</sub>R
- ▲ GLU<sub>K5</sub>
- ▲ mGluR5
- Glutamate transporter

## **Supplemental Figure legends**

**Supplemental Figure 1: Diagram illustrating the presence and function of GABA<sub>A</sub>Rs and GLU<sub>K5</sub> receptors in the SVZ.** Tonic GABA<sub>A</sub>R activation reduces the speed of neuroblast migration via paracrine/autocrine signaling. Glutamate presumably released from and taken up by GFAP cells tonically activates mGluR5 and GLU<sub>K5</sub> receptors on migrating neuroblasts. Tonic GLU<sub>K5</sub> receptor activation reduces the speed of neuroblast migration. The illustration also shows that there is a mosaic of receptor expression in the neuroblast population.

**Supplemental movie:** Time-lapse imaging of migrating neuroblasts in a whole mount under control condition. The movie contains 12 Z-stack images acquired every 5 min for 1 hour.