## **Description of Additional Supplementary Files**

File name: Supplementary Movie 1

**Description:** Spontaneous activity of jgcamp7s-expressing somatostatin interneurons in an APP/ PS1 mouse under 1% isoflurane anesthesia.

**File name:** Supplementary Movie 2 **Description:** Spontaneous activity of jgcamp7s-expressing parvalbumin interneurons in a non-transgenic mouse under 1% isoflurane anesthesia.

File name: Supplementary Movie 3

**Description:** Spontaneous activity of gcamp6s-expressing pyramidal neurons in a non-transgenic mouse under 1% isoflurane anesthesia.

File name: Supplementary Movie 4

**Description:** Spontaneous activity of gcamp6s-expressing pyramidal neurons in an APP/PS1 mouse under 1% isoflurane anesthesia. Amyloid plaque is shown in magenta.