Supplementary Material

Supplementary table 1. List of available genetic tools for using GECIs in astrocytes

| Mouse models                                      | Allele                                                                 | Source      | Stock number |
|--------------------------------------------------|------------------------------------------------------------------------|-------------|--------------|
| Ca²⁺ indicator                                   |                                                                        |             |              |
| GCaMP6f (Cre-dependent)                          | B6J.Cg-Gt(ROSA)26Sortm95.1(CAG-GCaMP6f)Hze/MwarJ                      | Jax         | 028865       |
| GCaMP6s (Cre-dependent)                          | B6J.Cg-Gt(ROSA)26Sortm96(CAG-GCaMP6s)Hze/MwarJ                       | Jax         | 028866       |
| GCaMP6s (tetO-dependent)                         | B6;DBA-Tg(tetO-GCaMP6s)2Niell/J                                      | Jax         | 024742       |
| GCaMP6f (Cre-dependent; targeted to the plasma membrane) | C57BL/6N-Gt(ROSA)26Sortm1(CAG-GCaMP6f)Khakh/J                      | Jax         | 029626       |
| G-CaMP7 (tetO-dependent)                         | C57BL/6J-Tg(tetO-G-CaMP7,-DsRed2)572Bsi                               | Riken       | RBRC06510    |
| G-CaMP7 (Slc1a2-dependent)                       | C57BL/6-Tg(Slc1a2-G-CaMP7)Bsi                                        | Riken       | RBRC09650    |
| R-CaMP1.07 (tetO-dependent)                       | Igs7tm143.1(tetO-RCaMP1.07)Hze                                      | Jax         | 030217       |
| YC-nano50 (tetO-dependent)                       | B6;129-Actb<tm2.1(tetO-YCnano50)Kftnk>                                 | Riken       | RBRC09550    |

| Viruses (ready-to-use for astrocyte research)     |                                                                        |             |              |
| Ca²⁺ indicator                                   |                                                                        |             |              |
| GCaMP6f                                          | pZac2.1 gfaABC1D-cyto-GCaMP6f                                         | AAV5        | 52925-AAV5   |
| GCaMP6f (targeted to the plasma membrane)        | pZac2.1 gfaABC1D-lck-GCaMP6f                                          | AAV5        | 52924-AAV5   |

| Plasmids (ready-to-use for astrocyte research)    |                                                                        |             |              |
| Ca²⁺ indicator                                   |                                                                        |             |              |
| GCaMP6f                                          | pZac2.1 gfaABC1D-cyto-GCaMP6f                                         | Addgene     | 52925        |
| GCaMP6f (targeted to the plasma membrane)        | pZac2.1 gfaABC1D-lck-GCaMP6f                                          | Addgene     | 52924        |
| R-CaMP1.07                                       | pAAV-hGfap-R-CaMP1.07-WPRE-SV40                                       | Addgene     | 164140       |
| jGCaMP7b                                         | pAAV-GFAP-jGCaMP7b                                                    | Addgene     | 171118       |
| jRCaMP1a                                         | pAAV-gfaABC1D-NES-jRCaMP1a                                            | Addgene     | 171120       |

¹requires astrocyte-specific Cre driver mouse line; ²requires astrocyte-specific tetO driver mouse line