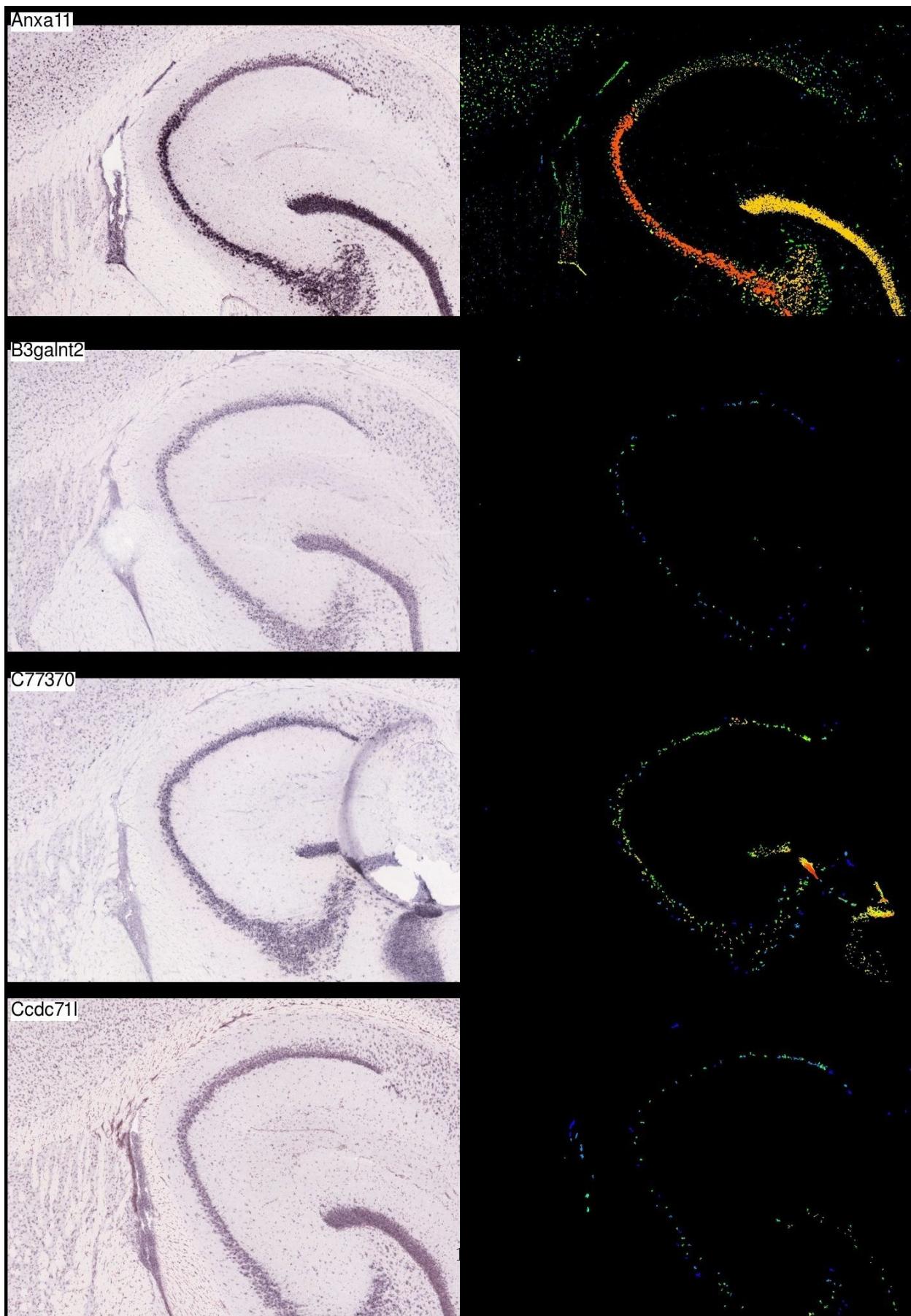
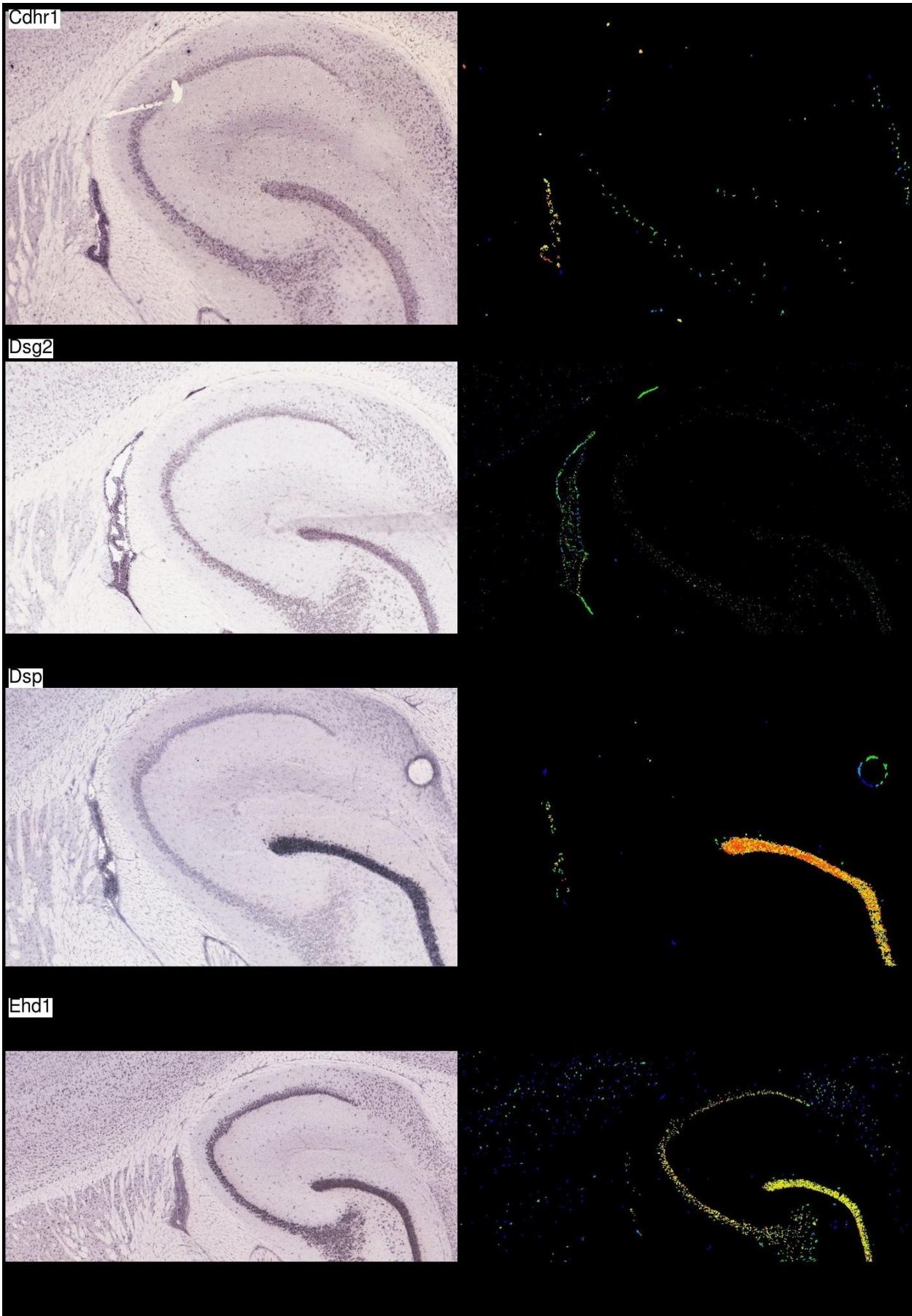
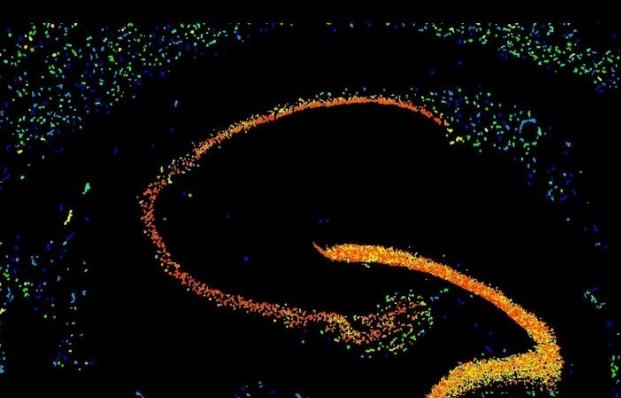


Figure S1: Expression of dentate granule cell markers discovered in the study in Allen Brain Atlas mouse brain *in situ* hybridization database.

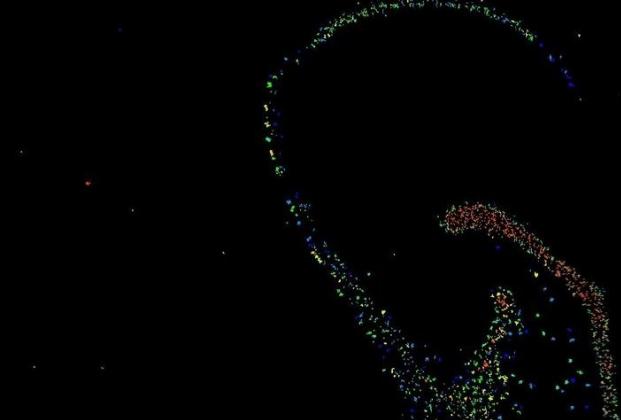
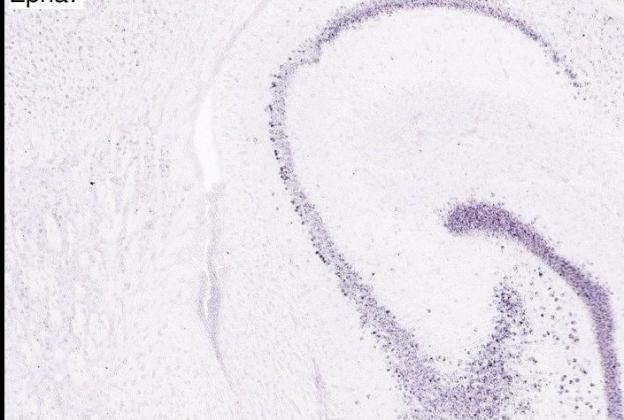




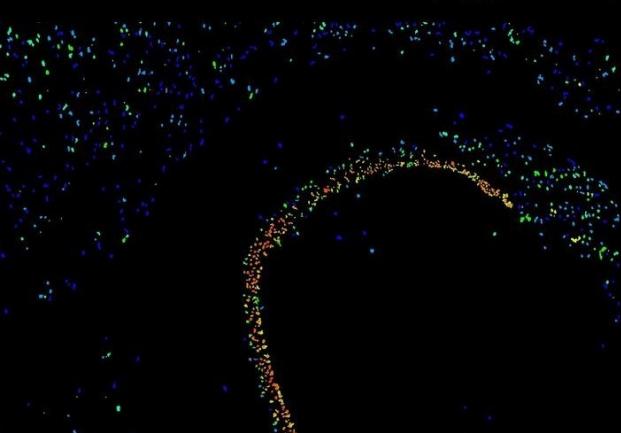
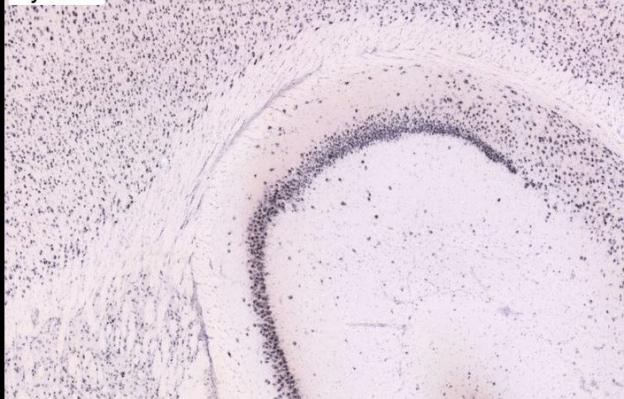
Eml5



Epha7



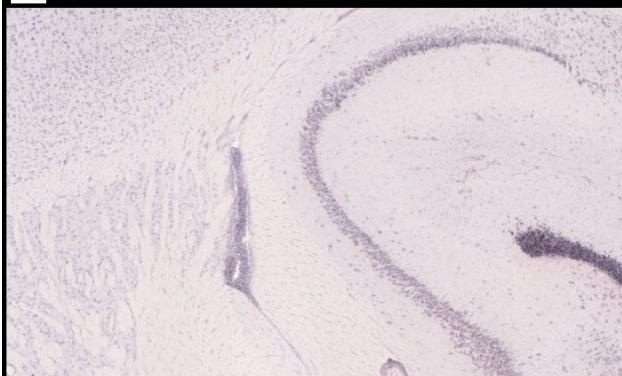
Flywch2



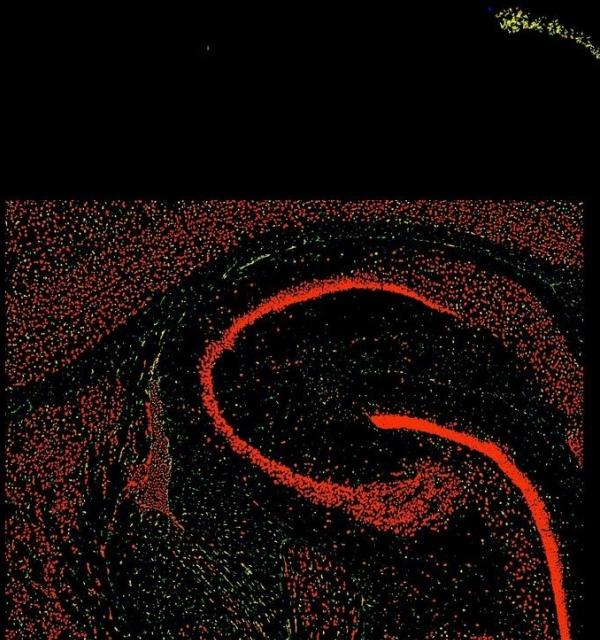
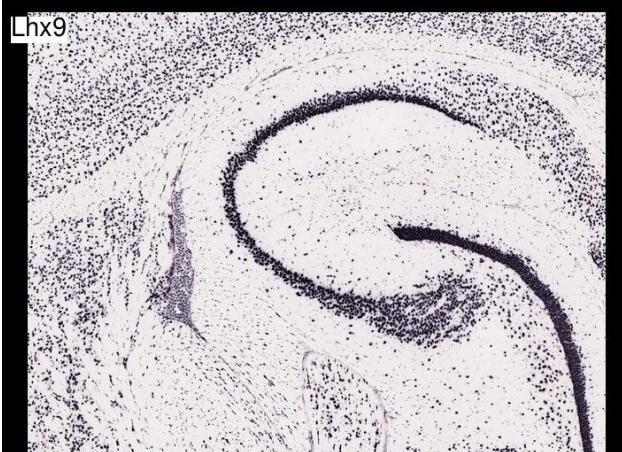
Lamb1



Lct



Lhx9

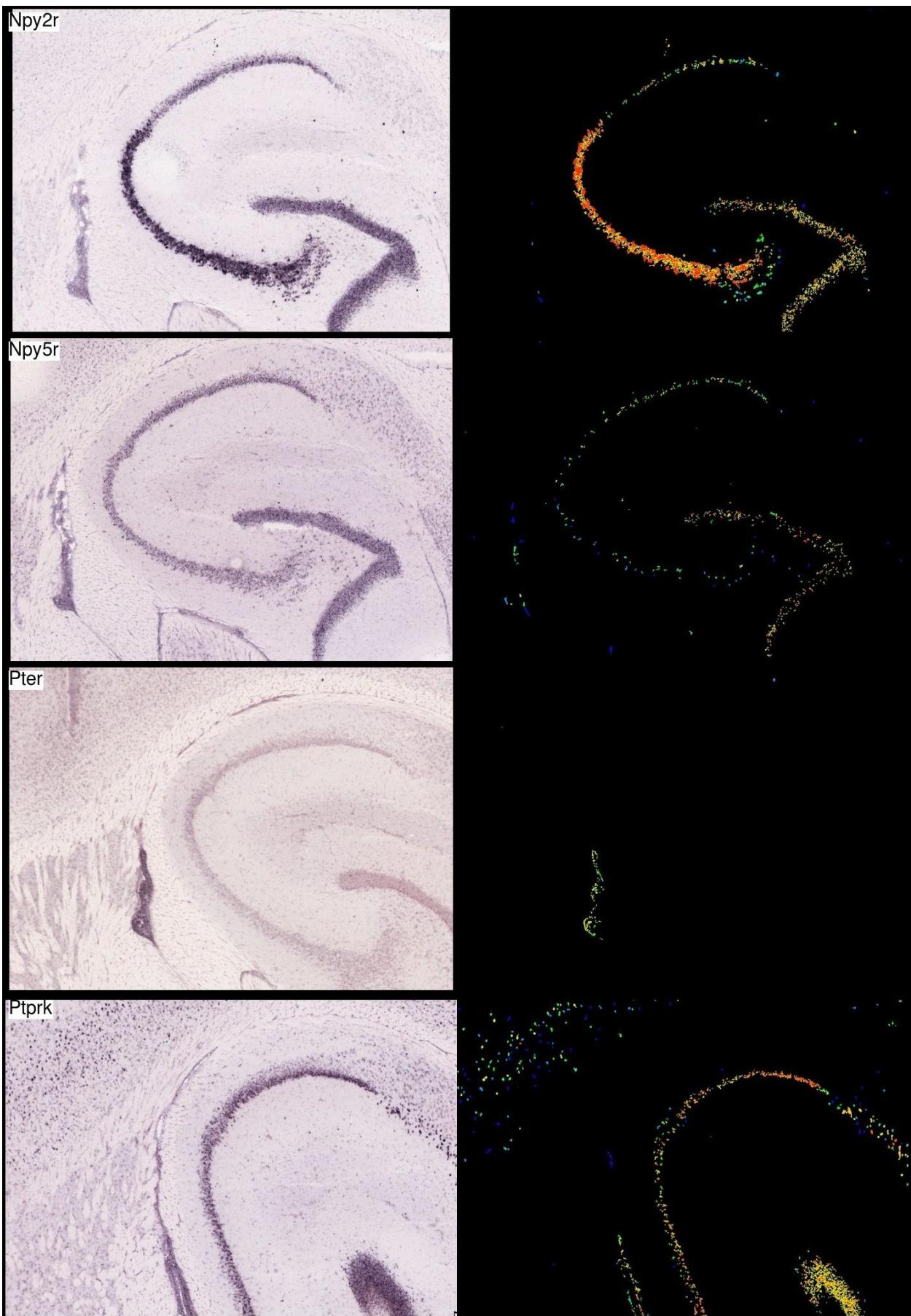


Neurod1

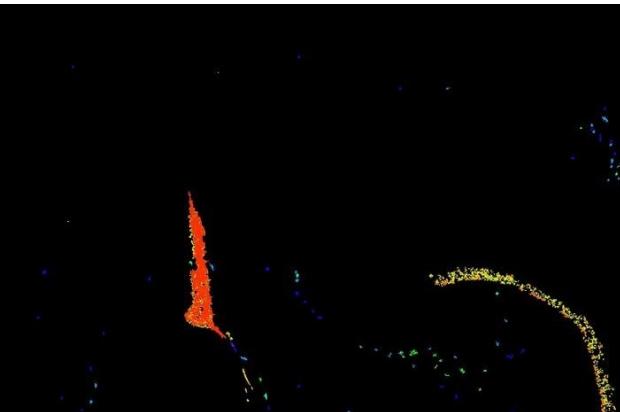


Npnt

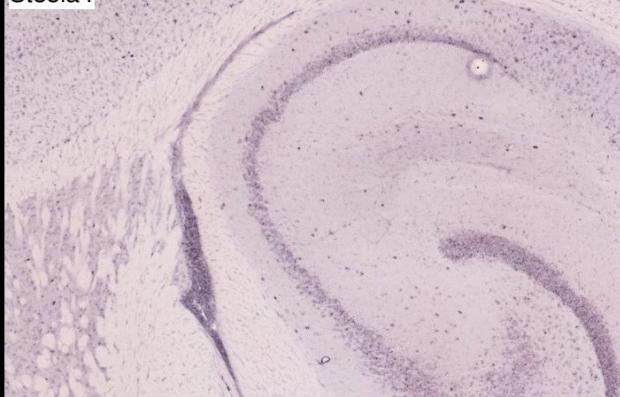




Spint2



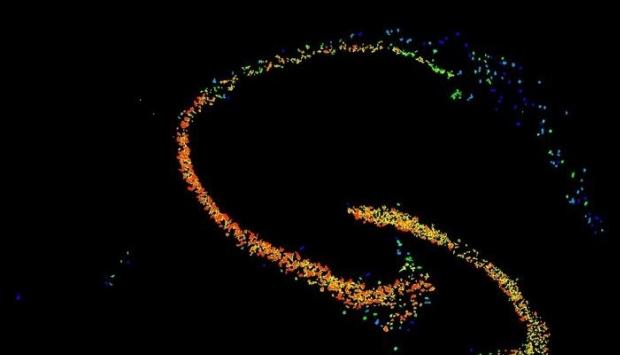
St8sia4



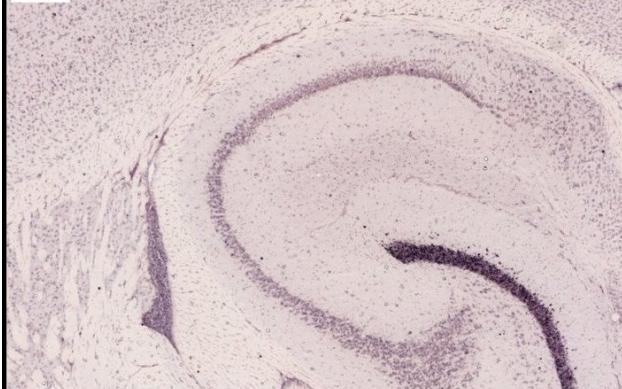
Stx3



Tanc1



Tdo2



Tiam1



Trpc6

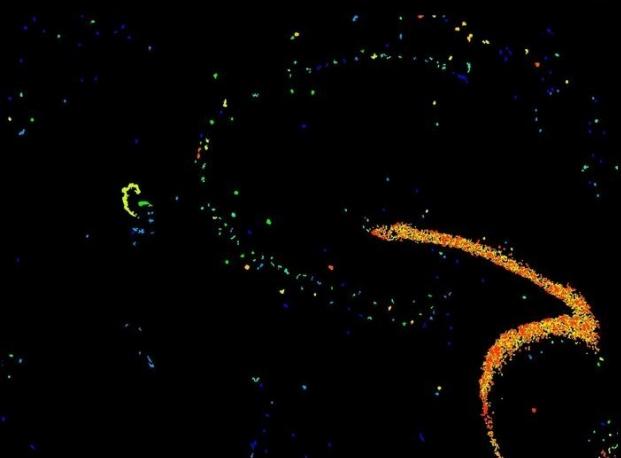
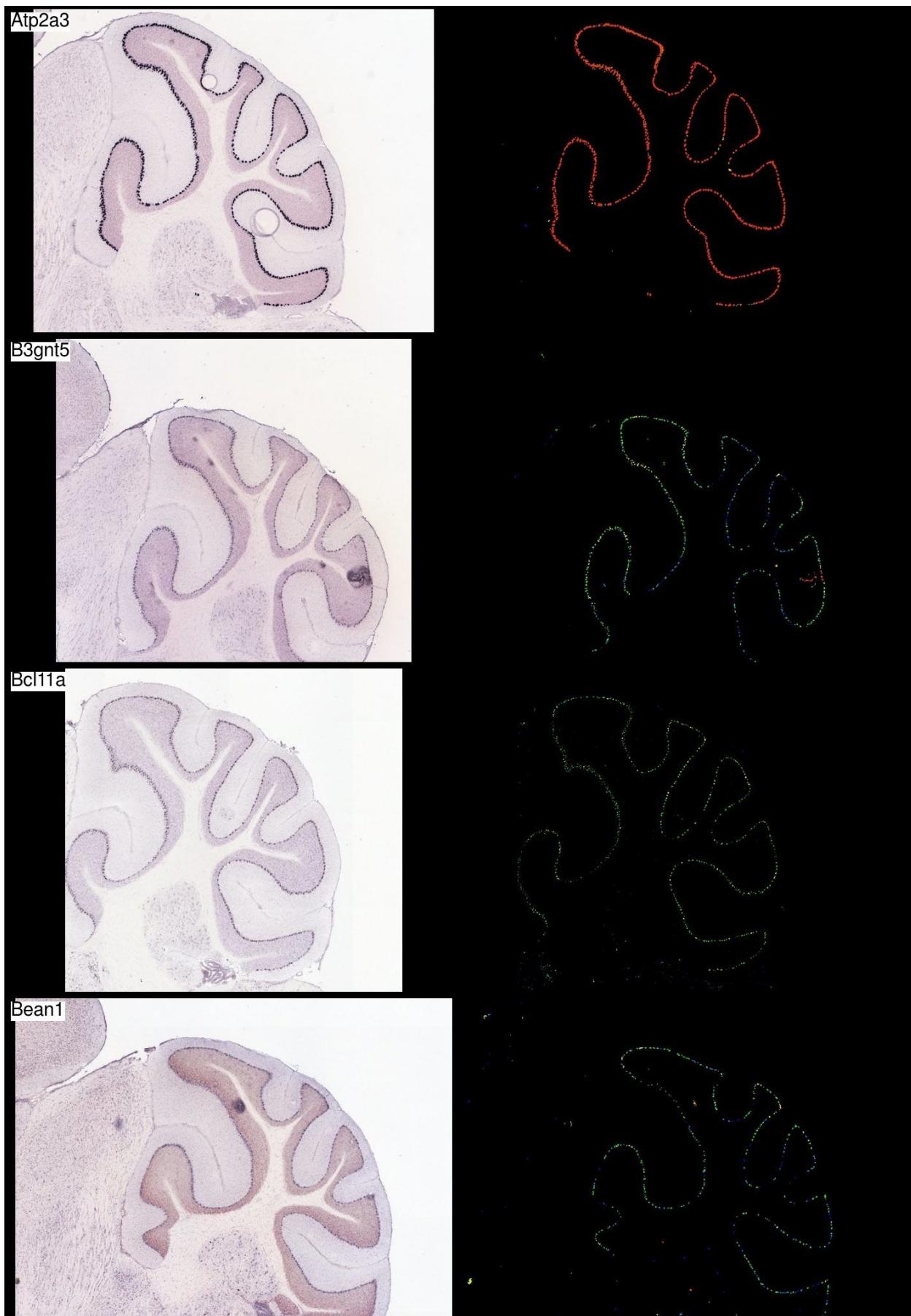
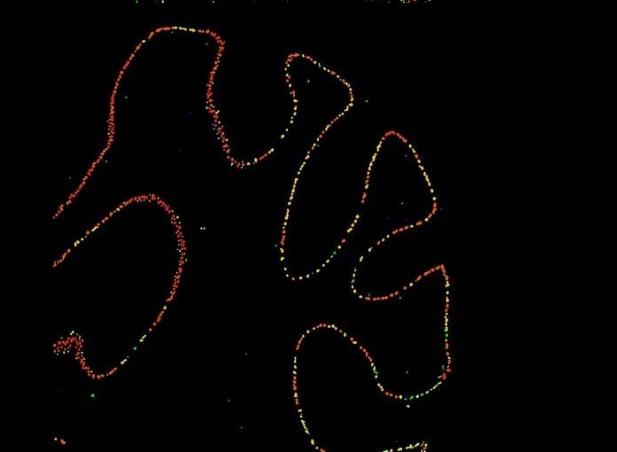
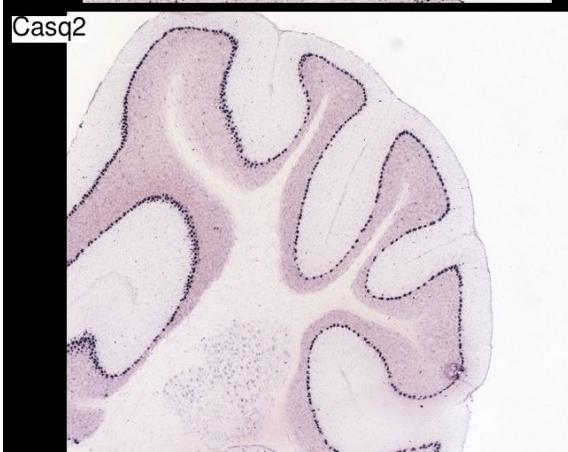
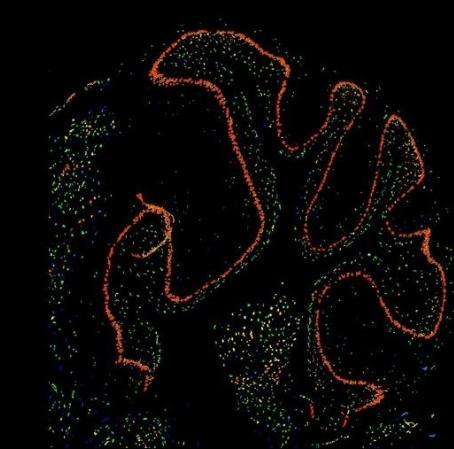
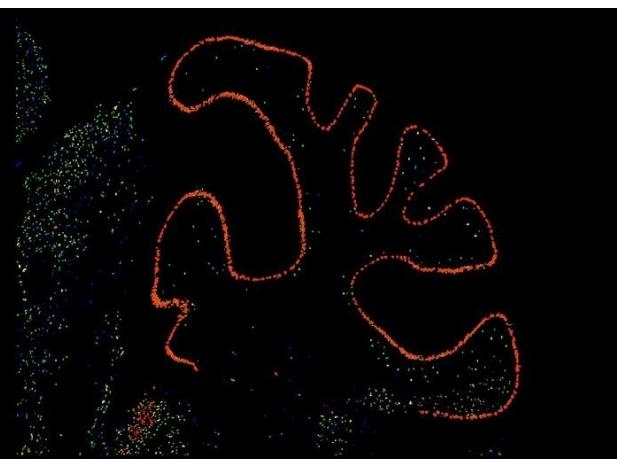
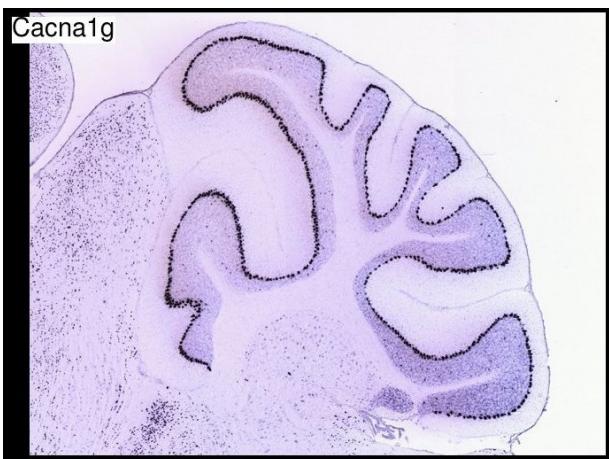
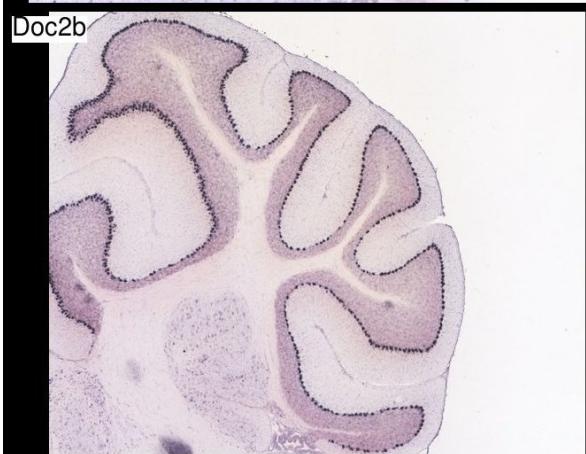
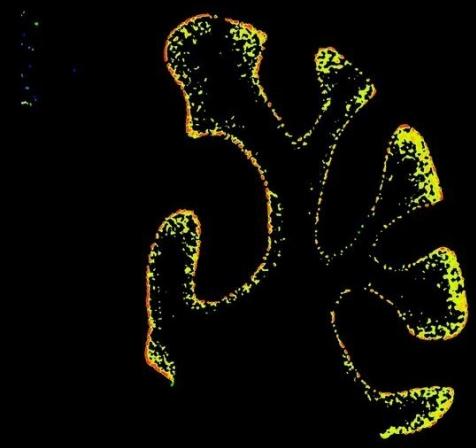
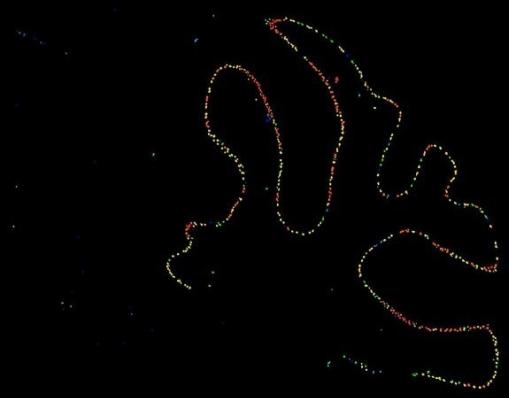
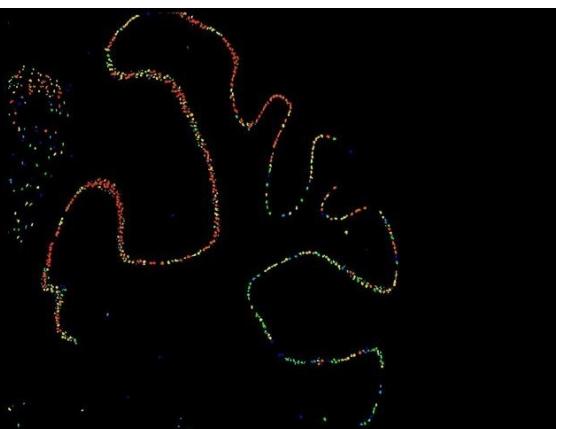
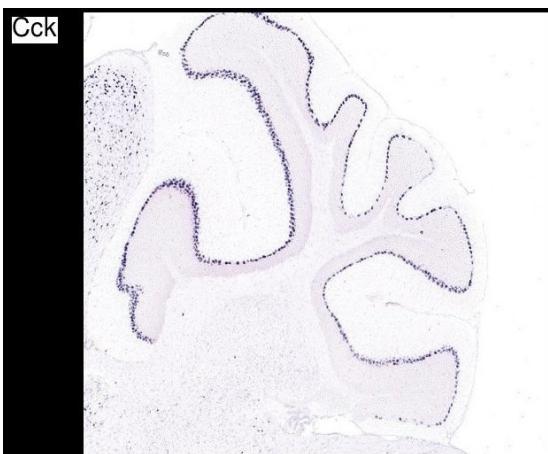


Figure S2: Expression of purkinje markers discovered in the study in Allen Brain Atlas mouse brain *in situ* hybridization database.



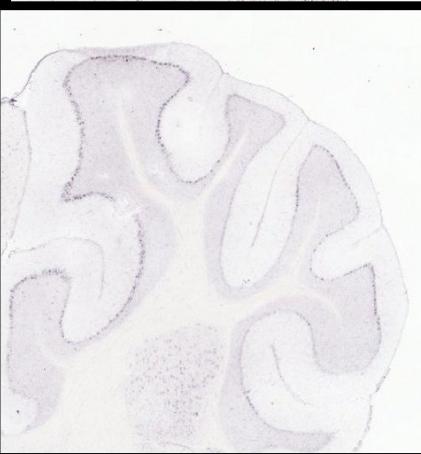




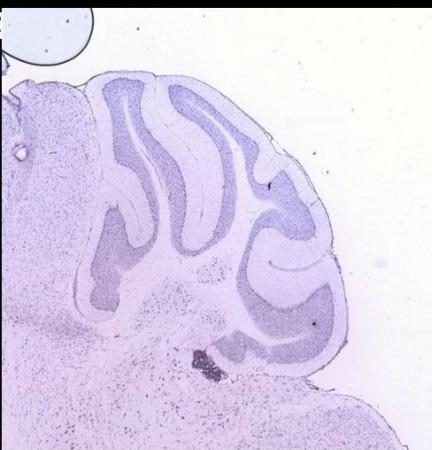
Ebf1



Ebf2



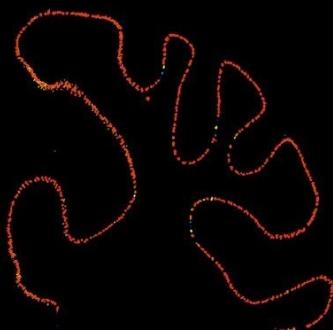
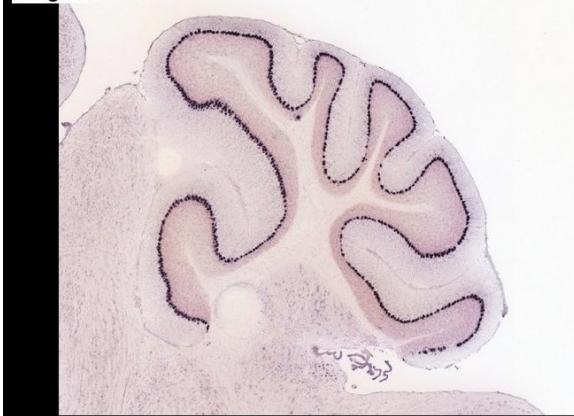
Eps8l2



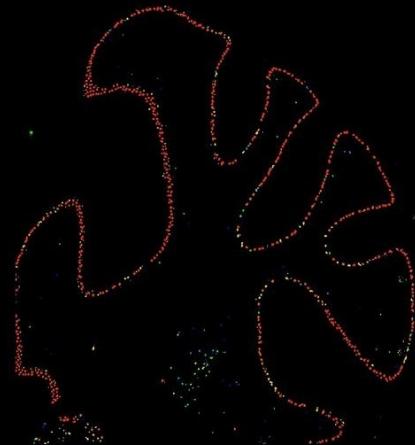
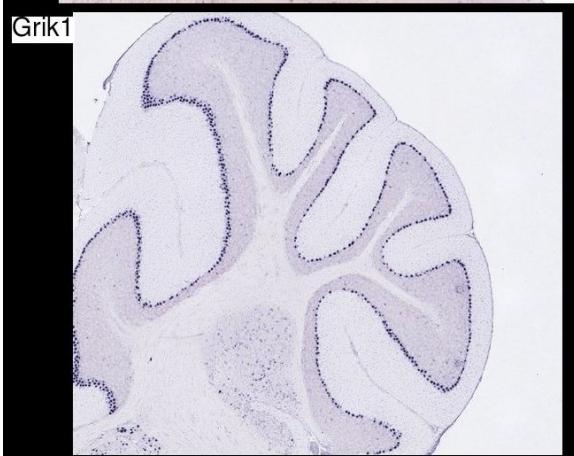
Gipc2



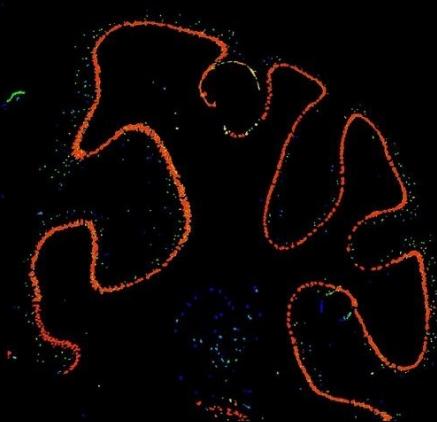
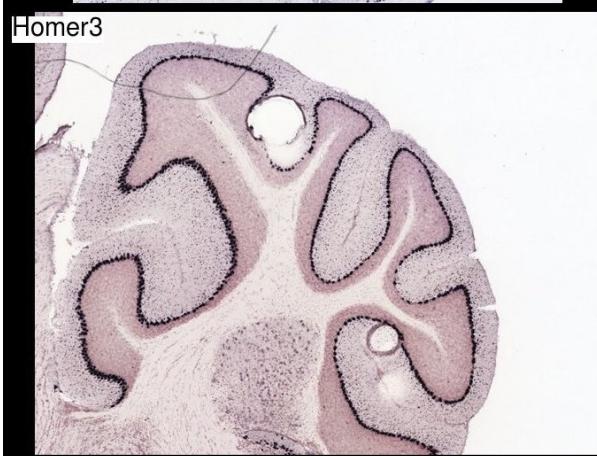
Gng13



Grik1

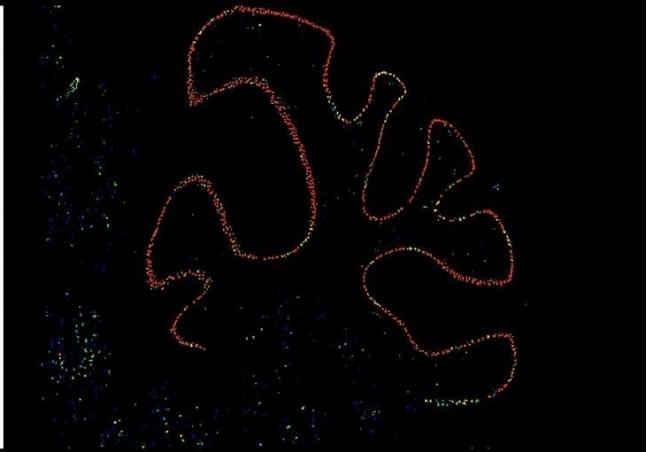
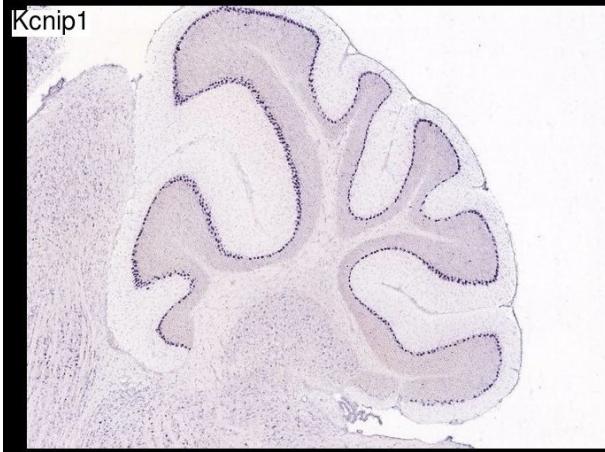
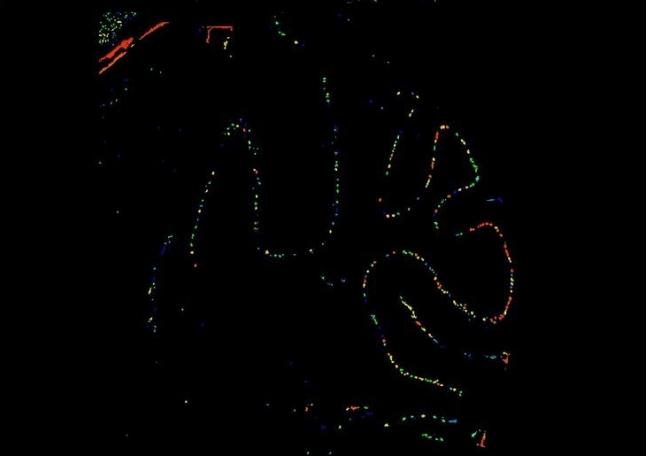
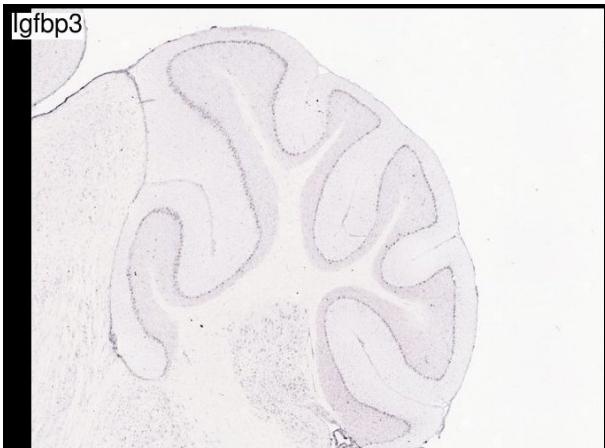


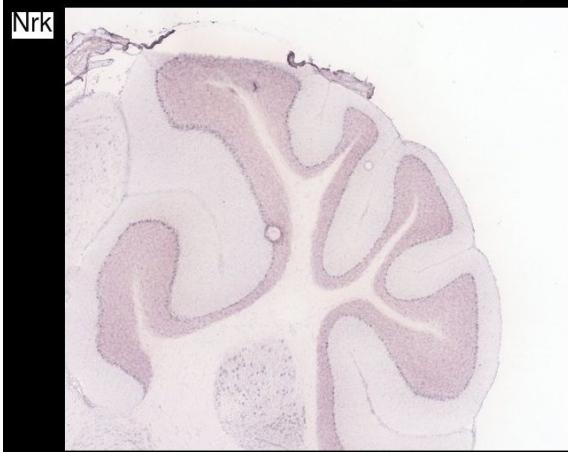
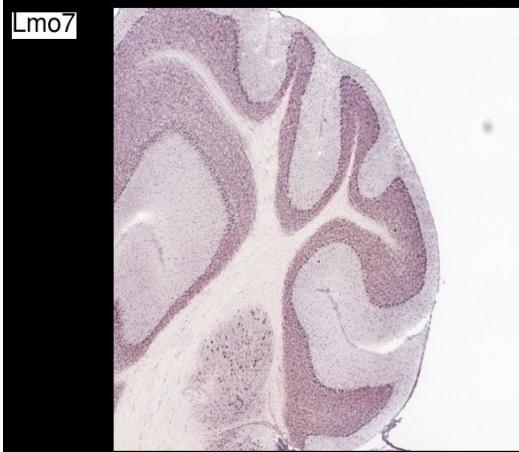
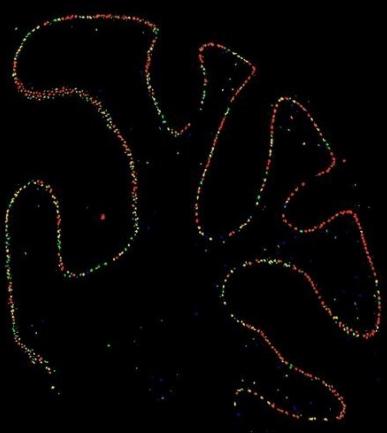
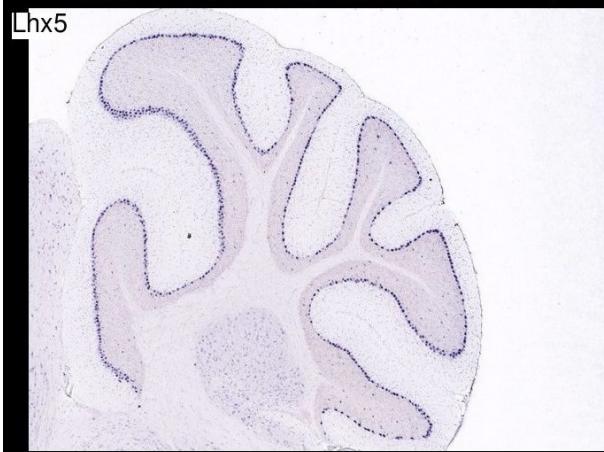
Homer3

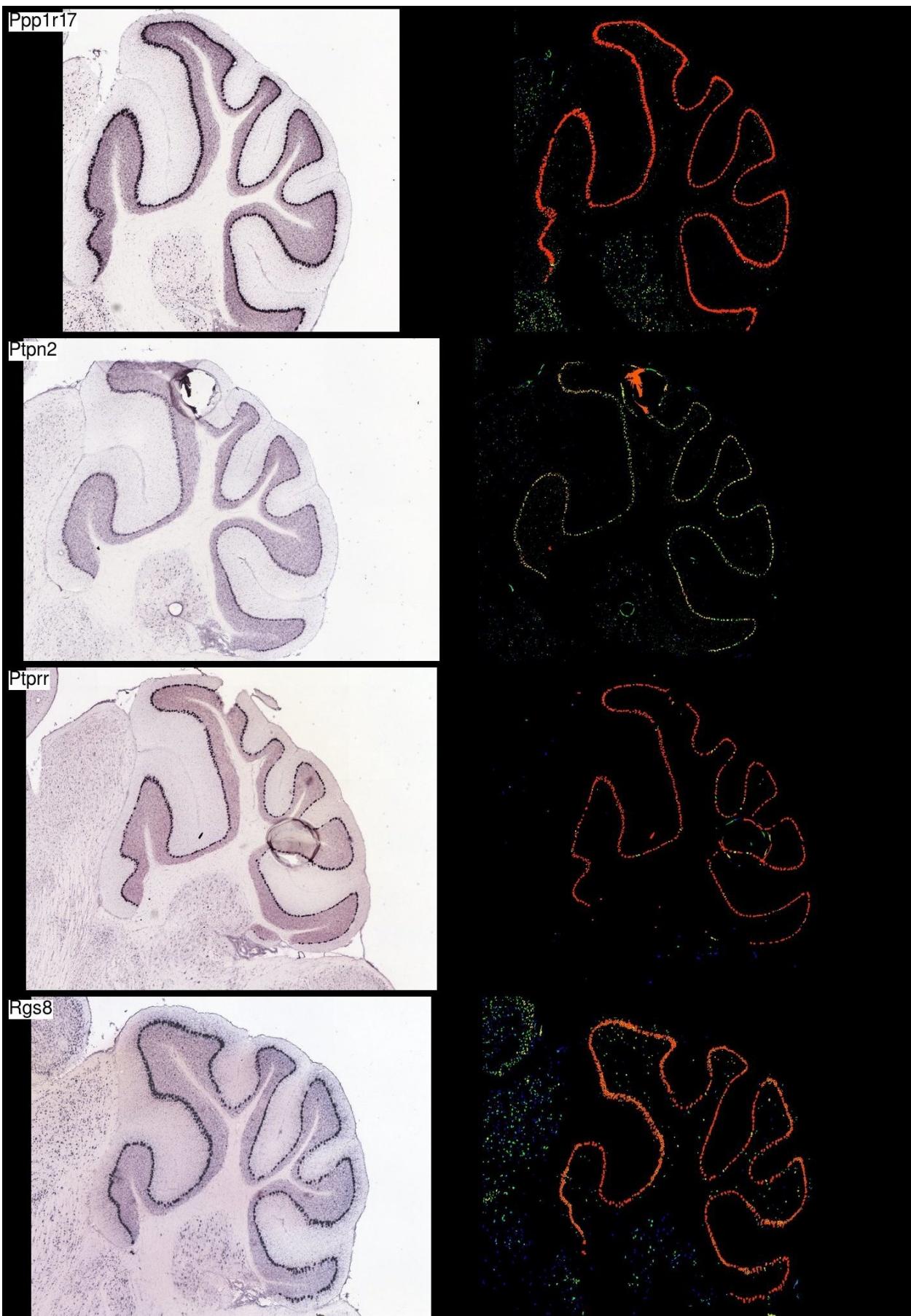


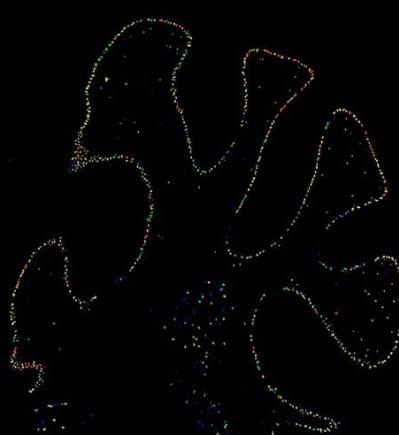
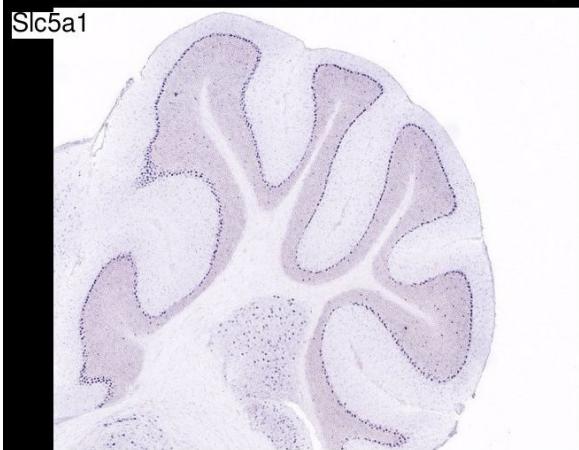
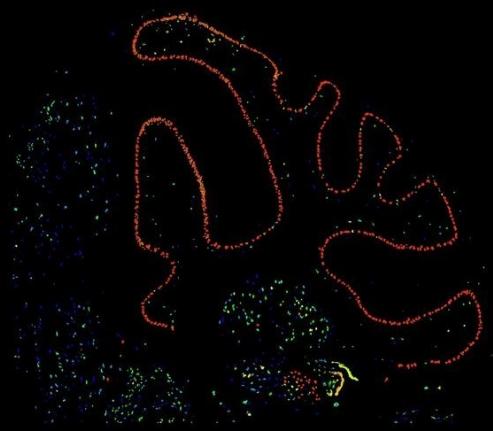
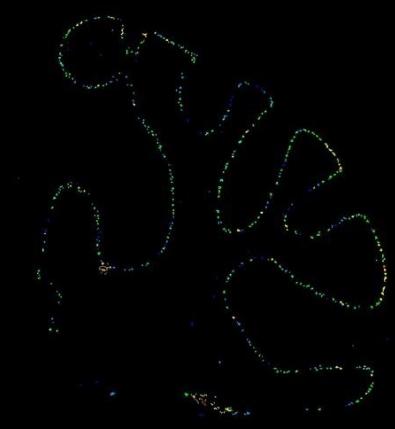
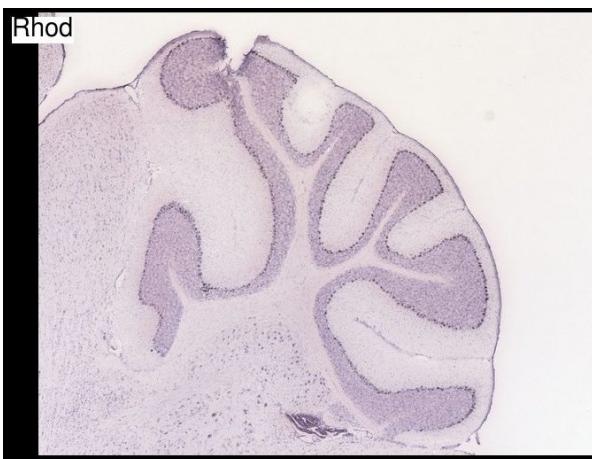
Icm7

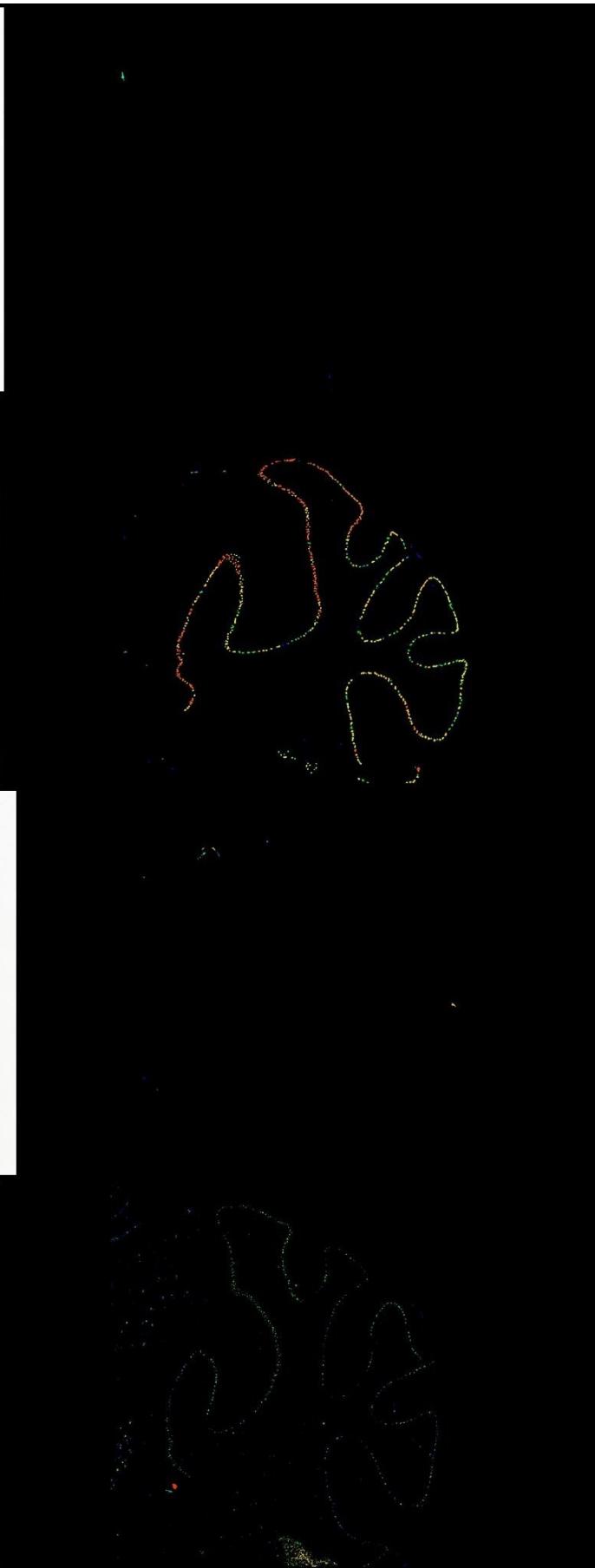
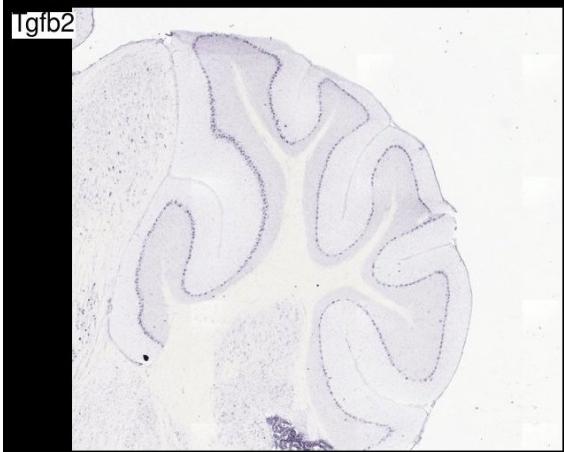












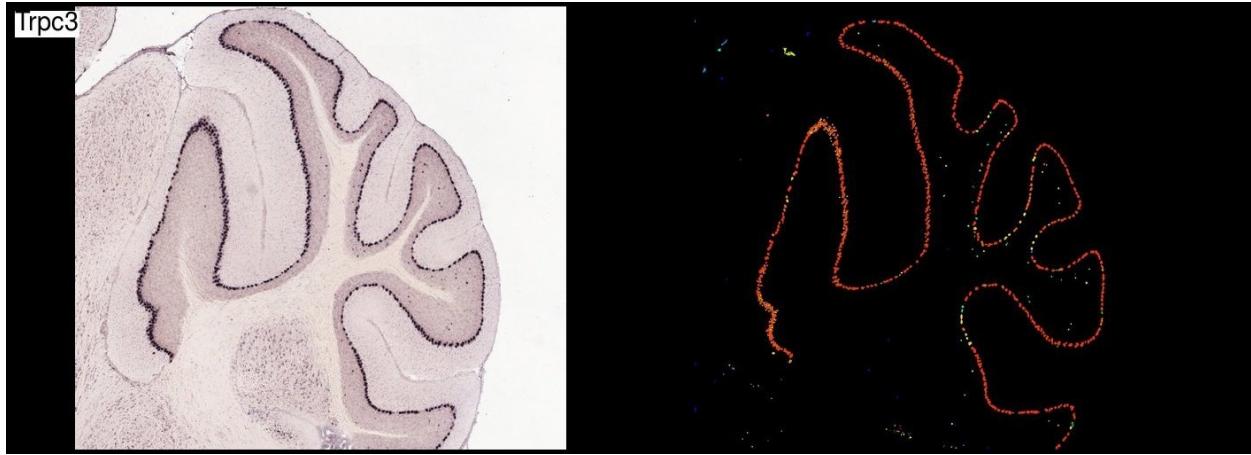


Table S1: Validation status of dentate granule cell markers.

| Gene | Status | Notes |
|----------|---------------|--|
| Anxa11 | ok | |
| B3galnt2 | ok | |
| C77370 | ok | |
| Ccdc71l | ok | |
| Cdhr1 | ok | |
| Dsg2 | ok | |
| Dsp | ok | |
| Ehd1 | ok | |
| Eml5 | ok | |
| Epha7 | ok | |
| Flywch2 | ok | |
| Lamb1 | ok | |
| Lct | ok | |
| Lhx9 | not specific | |
| Neurod1 | ok | |
| Nhs12 | not in ABA | |
| Npnt | ok | |
| Npy2r | ok | |
| Npy5r | ok | |
| Ogn | not in ABA | |
| Pter | not expressed | Not expressed anywhere else in the rest of the brain |
| Ptprk | ok | |
| Spint2 | ok | |
| St8sia4 | not expressed | Not expressed anywhere else in the rest of the brain |
| Stx3 | ok | |
| Tanc1 | ok | |
| Tdo2 | ok | |
| Tiam1 | ok | |
| Trpc6 | ok | |

Table S2: Validation status of purkinje cell markers.

| Gene | Status | Notes |
|----------|---------------|--|
| Atp2a3 | ok | |
| B3gnt5 | ok | |
| Bcl11a | ok | 2nd probeset |
| Bean1 | ok | |
| Cacna1g | ok | |
| Cacna2d2 | not specific | |
| Calb1 | ok | |
| Casq2 | ok | |
| Cck | ok | |
| Col18a1 | ok | |
| Dgkg | ok | |
| Doc2b | ok | |
| Ebf1 | ok | |
| Ebf2 | ok | Low signal |
| Eps8l2 | inconclusive | |
| Fam174b | not in ABA | |
| Gipc2 | ok | Low signal |
| Gng13 | ok | |
| Grik1 | ok | |
| Homer3 | ok | |
| Icmt | ok | |
| Igfbp3 | ok | Low signal |
| Igfbp6 | ok | |
| Itpka | ok | |
| Kcnip1 | ok | |
| Krt25 | ok | |
| Lhx5 | ok | |
| Lmo7 | ok | |
| Nrk | ok | Low signal |
| Ppp1r17 | ok | |
| Ptpn2 | ok | |
| Ptprr | ok | |
| Rgs8 | ok | |
| Rhod | ok | |
| Ryr1 | ok | |
| Slc1a6 | ok | |
| Slc5a1 | ok | |
| Smpx | not expressed | Not expressed anywhere else in the rest of the brain |
| Stac | ok | |
| Sycp1 | not expressed | Not expressed anywhere else in the rest of the brain |
| Tgfb2 | ok | |
| Trpc3 | ok | |
| Tuba8 | not in ABA | |

Figure S3: Expression of Pter and St8sia4 in pooled RNA-seq data from Cembrowski et al.. Data acquired from <http://hipposeq.janelia.org>

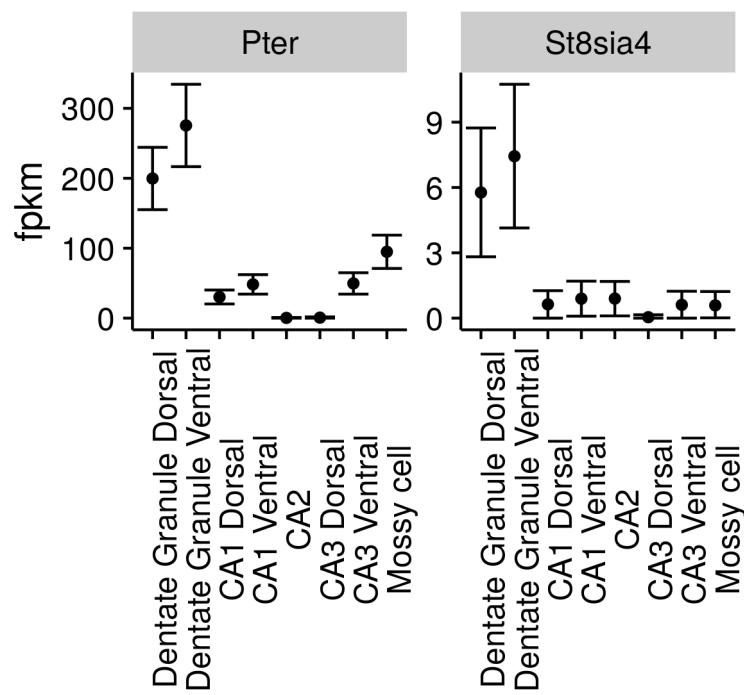


Table S3: Intersection of purkinje markers from NeuroExpresso markers and Rong et al. 2004 study. Rong et al. genes are taken from Table 2 of the paper. Probe to gene annotations are repeated using annotations from Gemma. Fold change column shows the difference of expression between wild type and pcd^{3J} mouse which lacks purkinje cells according to Rong et al..

| Gene Symbol | Probeset | Fold change |
|-------------|--------------|-------------|
| Slc1a6 | 1418933_at | 2.03 |
| Cck | 1419473_a_at | 3.53 |
| Gng13 | 1419414_at | 3.88 |
| Ppp1r17 | 1449240_at | 4.12 |
| Calb1 | 1417504_at | 5.63 |
| Calb1 | 1448738_at | 7.42 |
| Itpka | 1424037_at | 7.76 |
| Cacna1g | 1423365_at | 12.51 |
| Doc2b | 1420667_at | 14.08 |
| Icmr | 1426500_at | 14.11 |
| Rgs8 | 1453060_at | 15.17 |
| Nrk | 1450079_at | 15.83 |
| Casq2 | 1422529_s_at | 16.36 |
| Trpc3 | 1417577_at | 21.03 |
| Kcnip1 | 1448459_at | 21.41 |
| Homer3 | 1424859_at | 27.80 |
| Atp2a3 | 1421129_a_at | 28.17 |
| Kcnip1 | 1416785_at | 28.50 |
| Atp2a3 | 1450124_a_at | 31.57 |
| Sycp1 | 1427291_at | 33.16 |
| Doc2b | 1420666_at | 36.04 |
| Ptprr | 1426047_a_at | 36.41 |
| Fam174b | 1434273_at | 43.73 |
| Slc5a1 | 1419057_at | 46.80 |