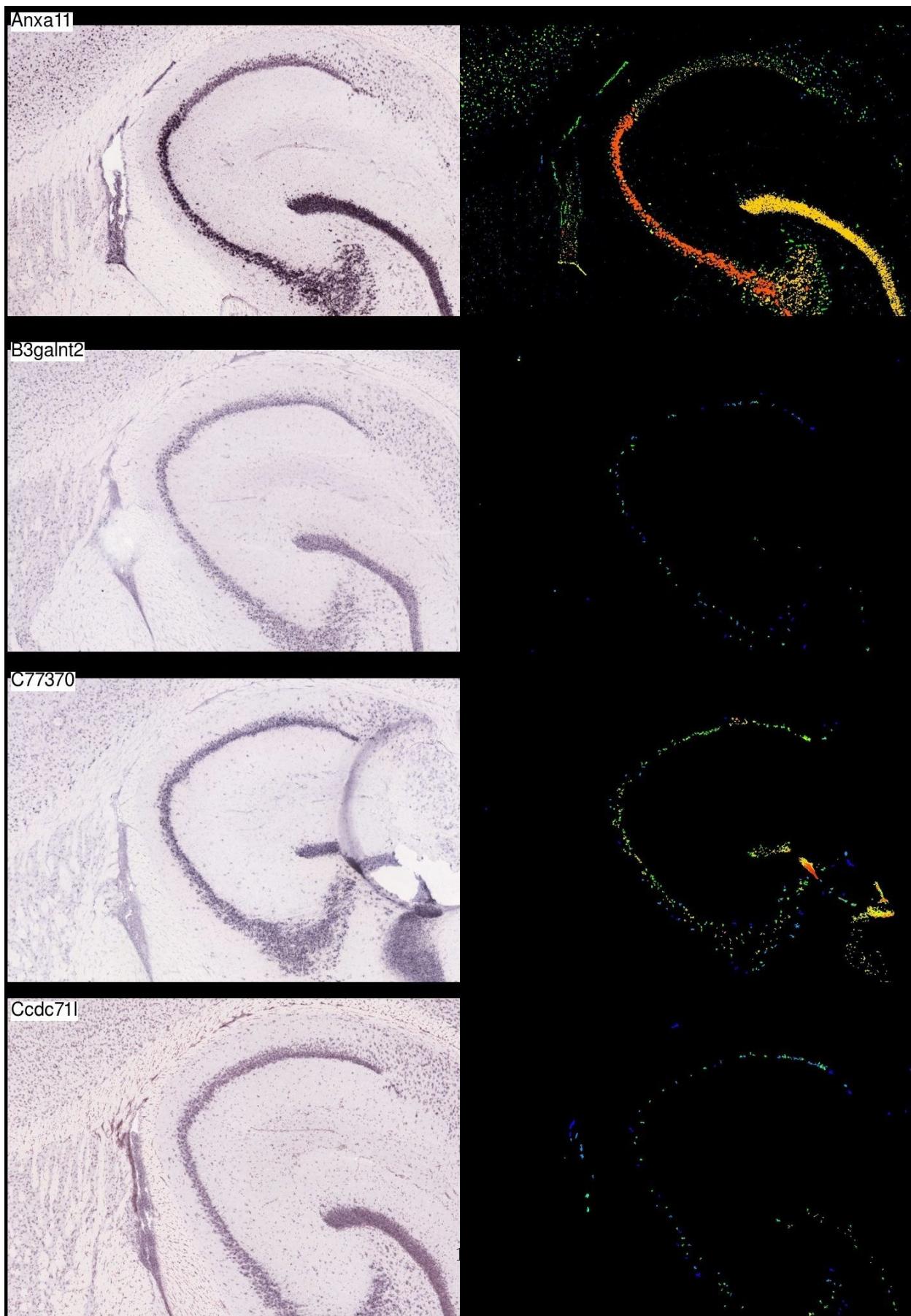
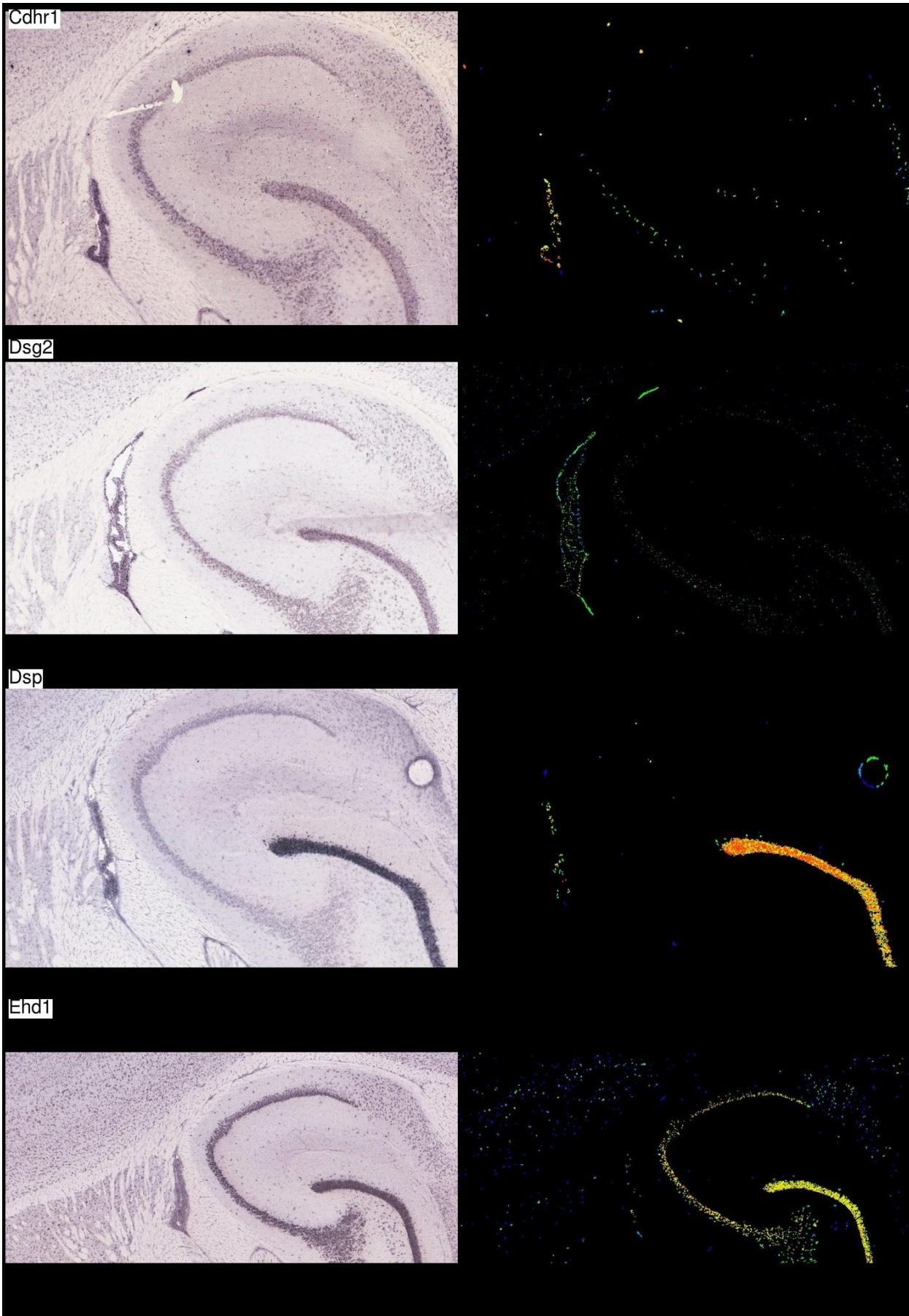
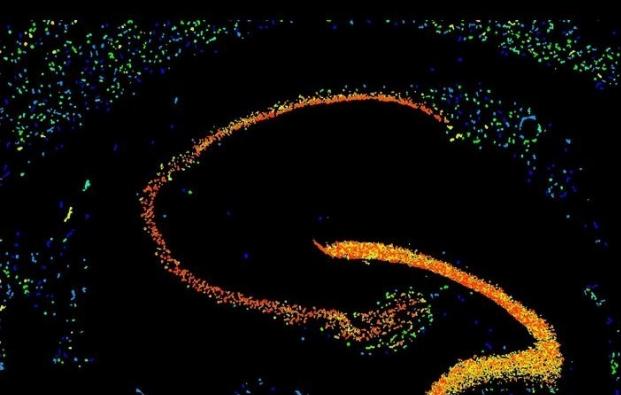


Figure S1: Expression of dentate granule cell markers discovered in the study in Allen Brain Atlas mouse brain *in situ* hybridization database.

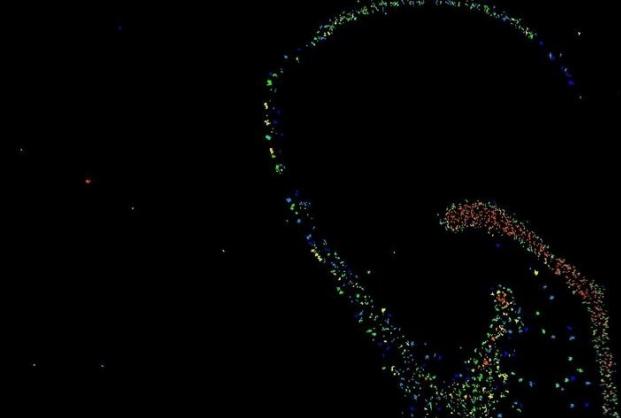




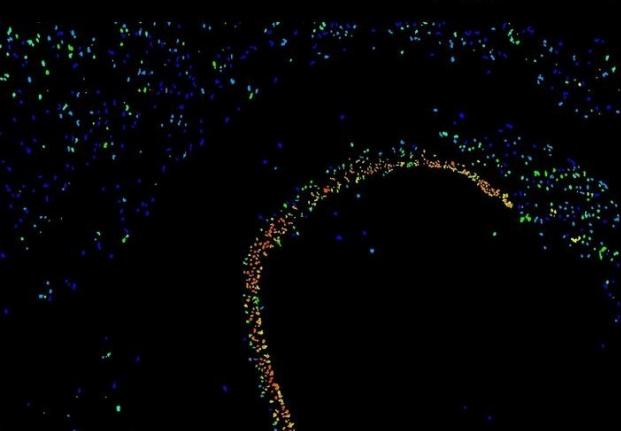
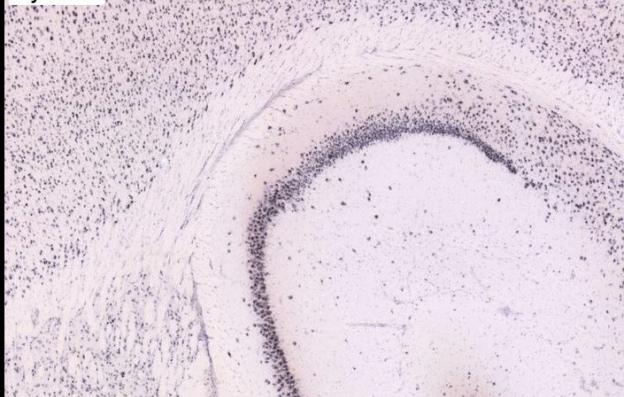
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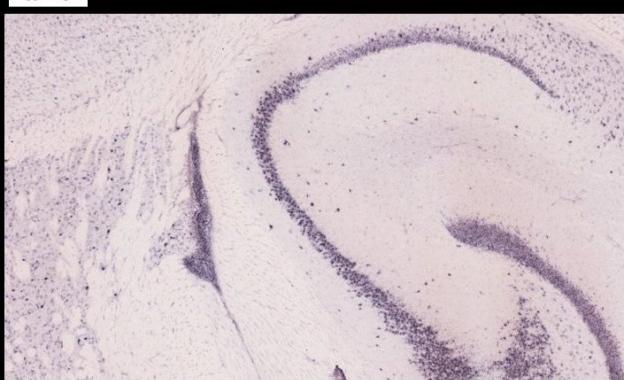
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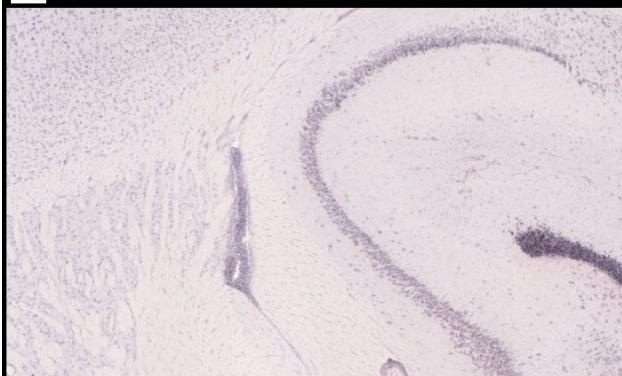
Flywch2



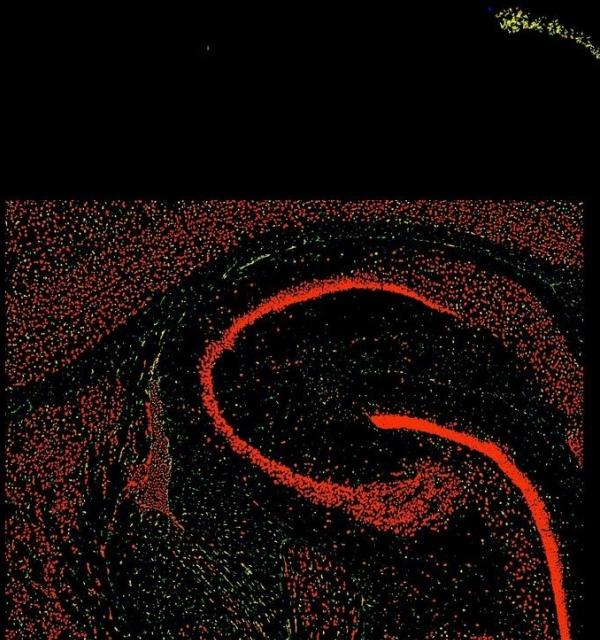
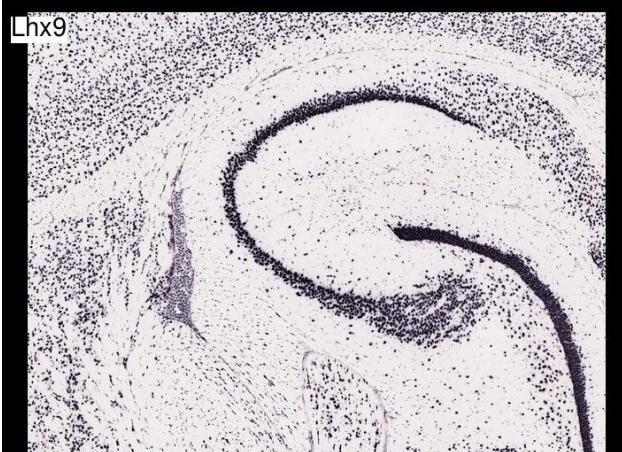
Lamb1



Lct



Lhx9

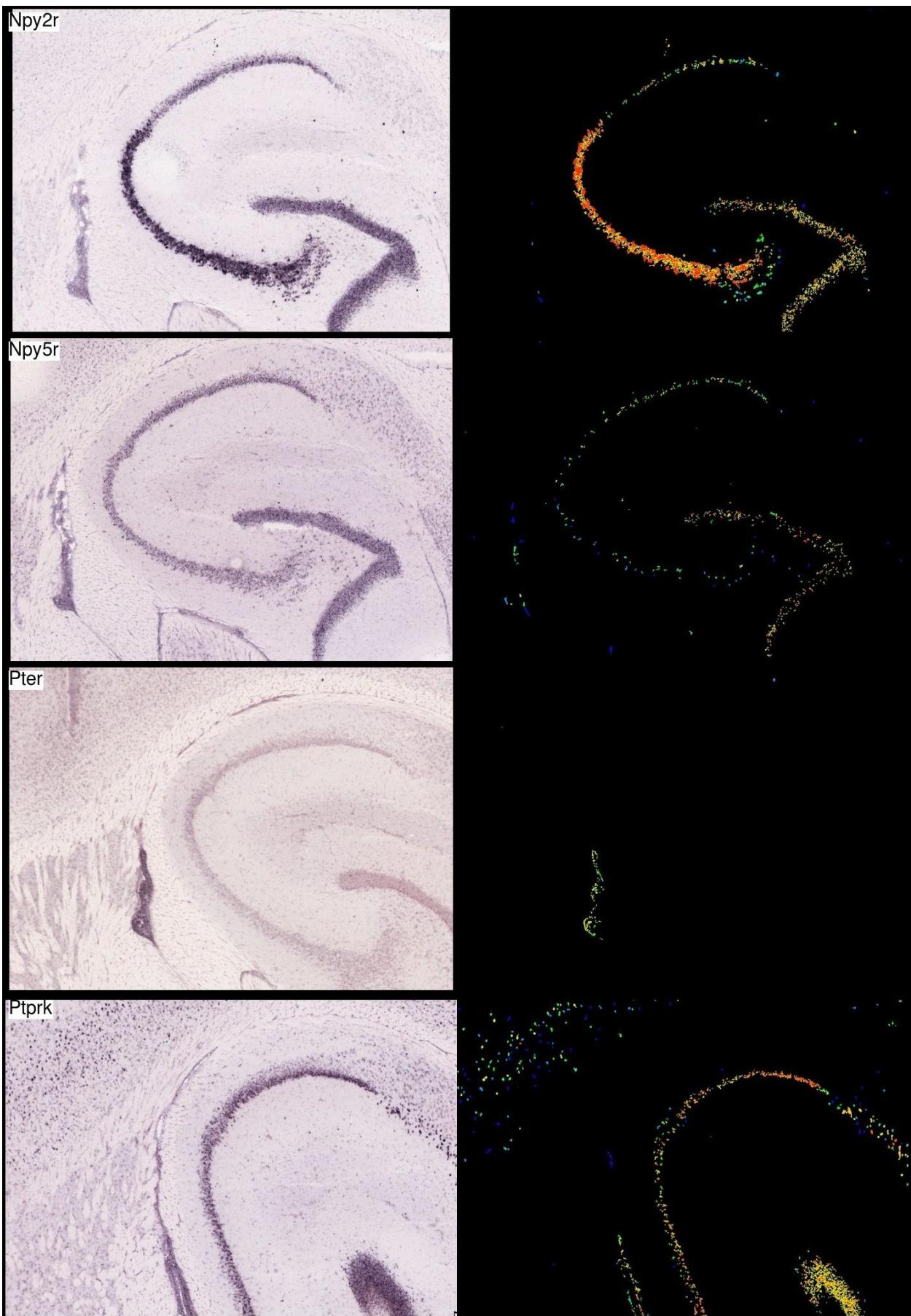


Neurod1

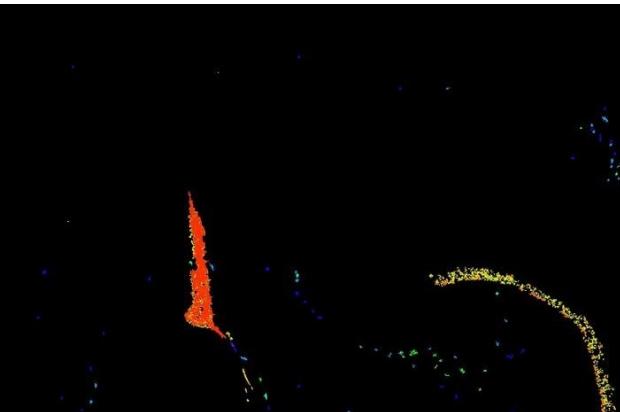


Npnt

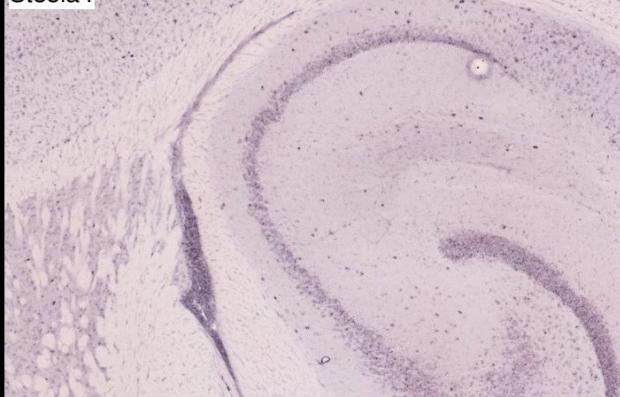




Spint2



St8sia4



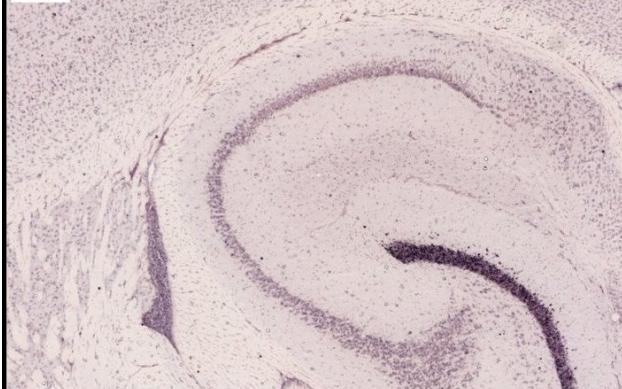
Stx3



Tanc1



Tdo2



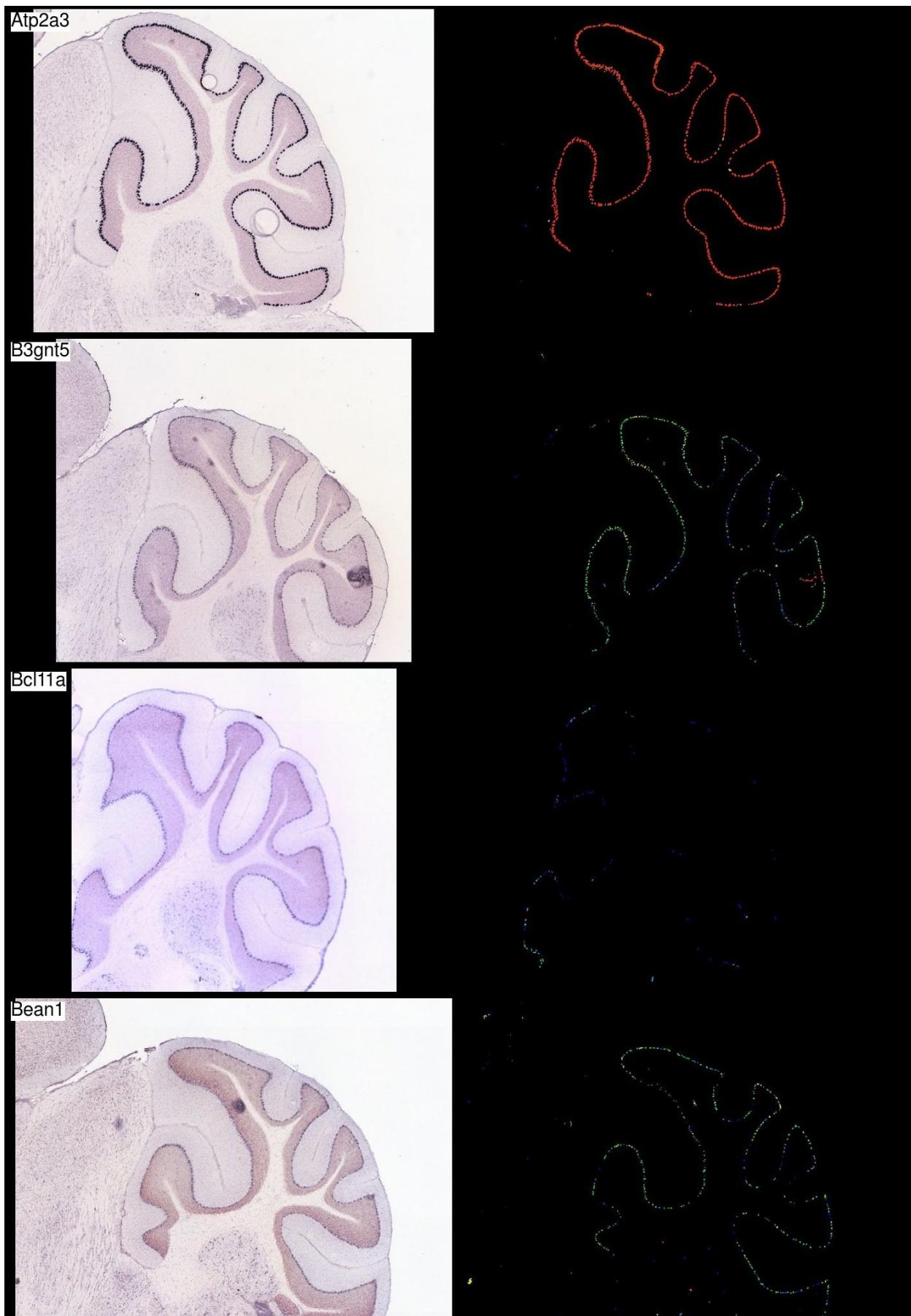
Tiam1

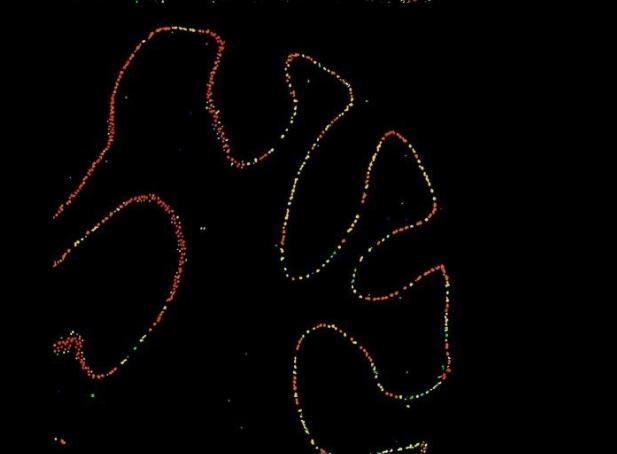
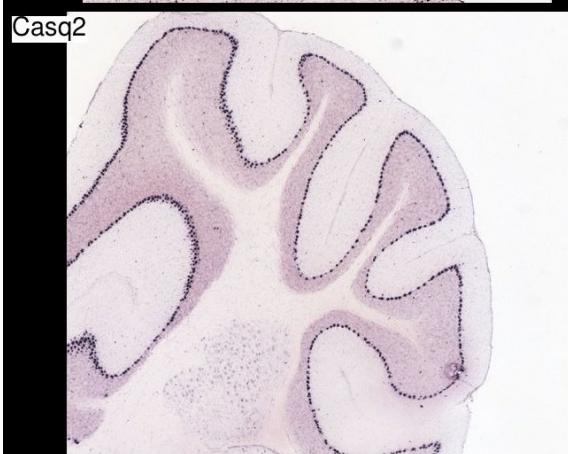
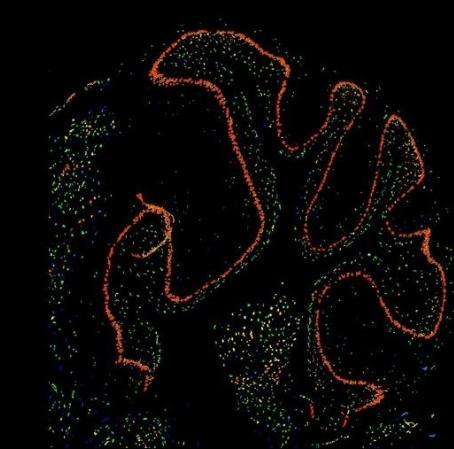
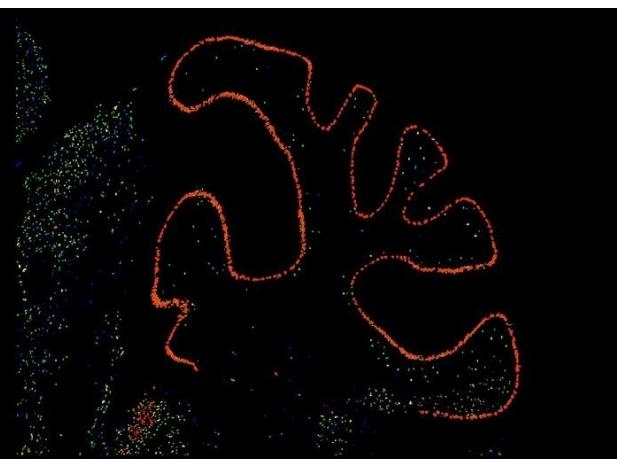
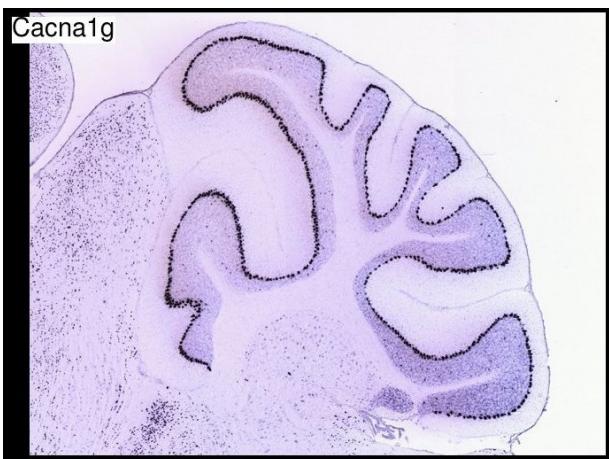


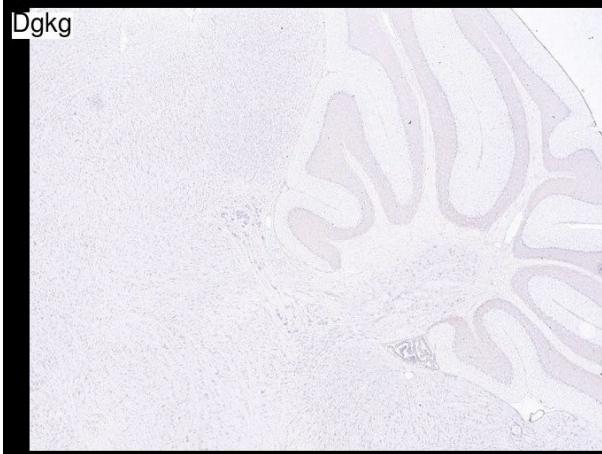
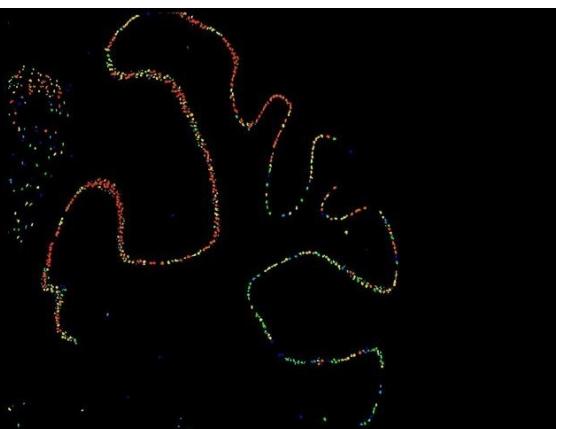
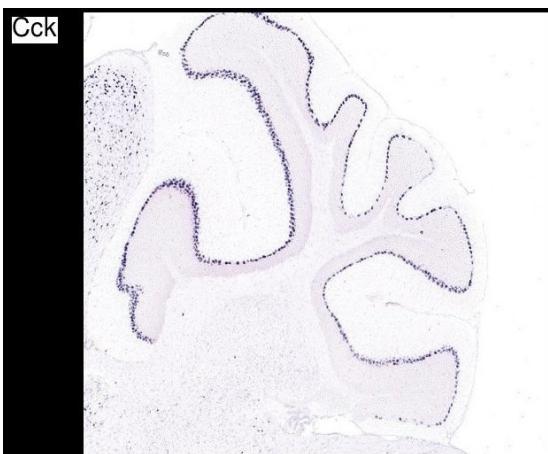
Trpc6



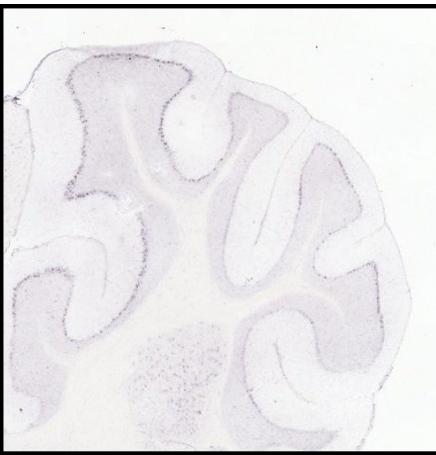
Figure S2: Expression of purkinje markers discovered in the study in Allen Brain Atlas mouse brain *in situ* hybridization database.







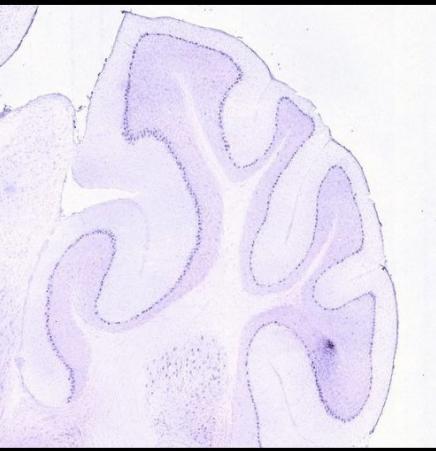
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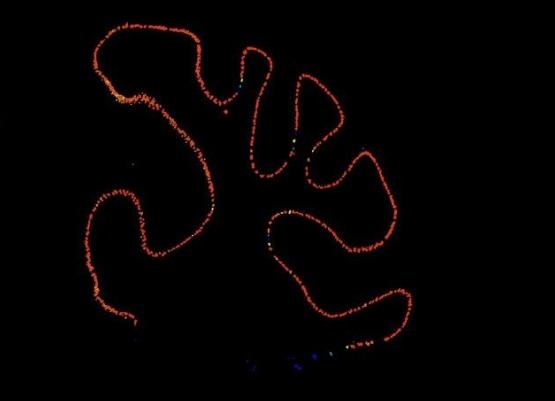
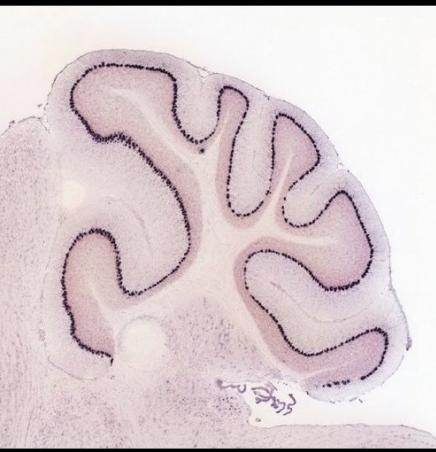
Eps8l2

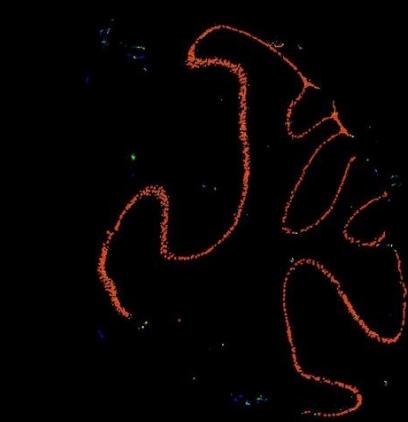
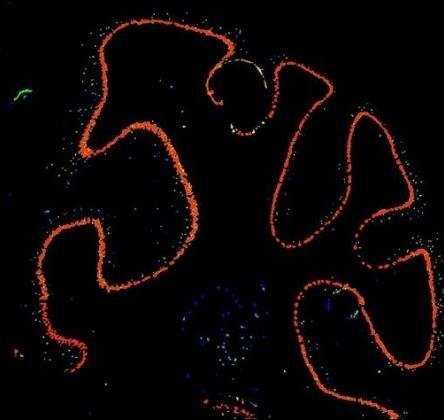
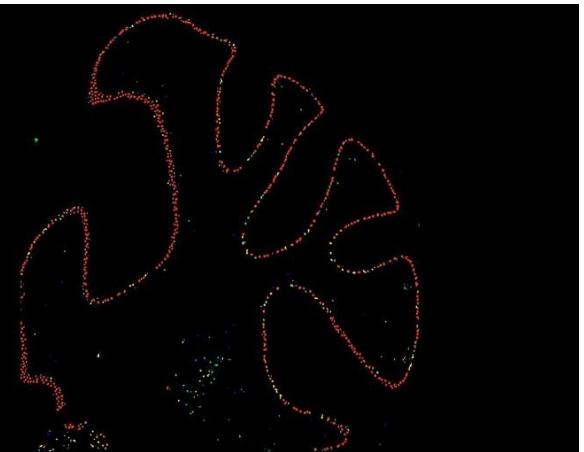
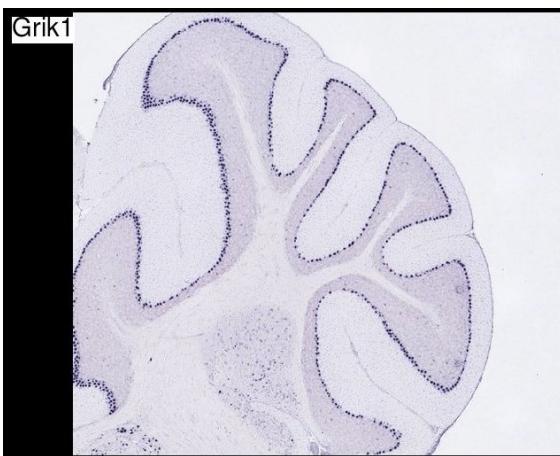


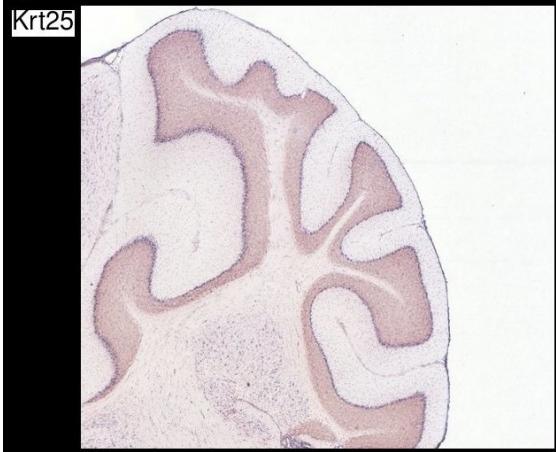
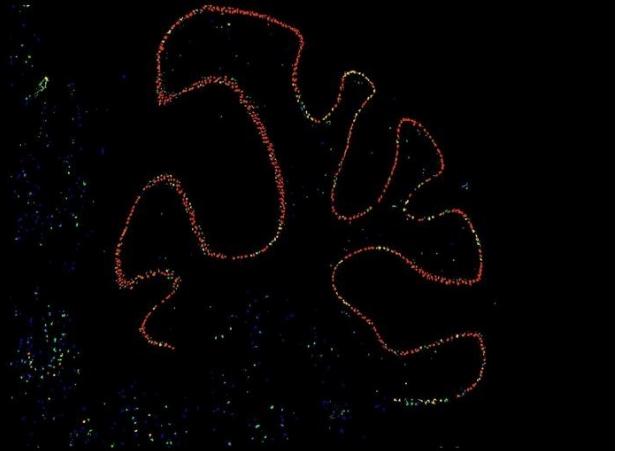
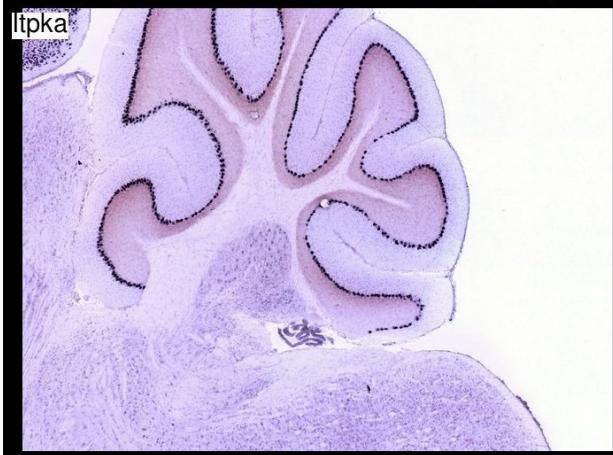
Gipc2

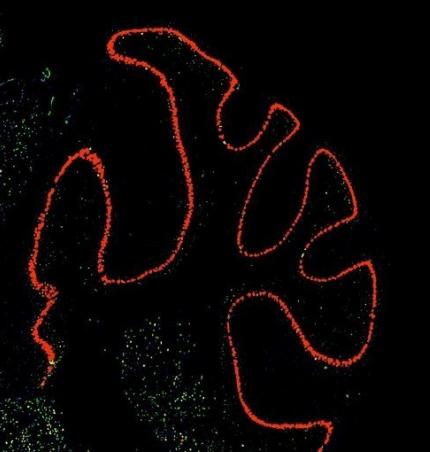
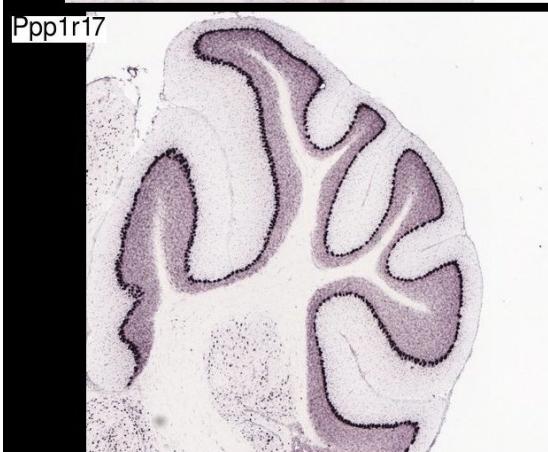
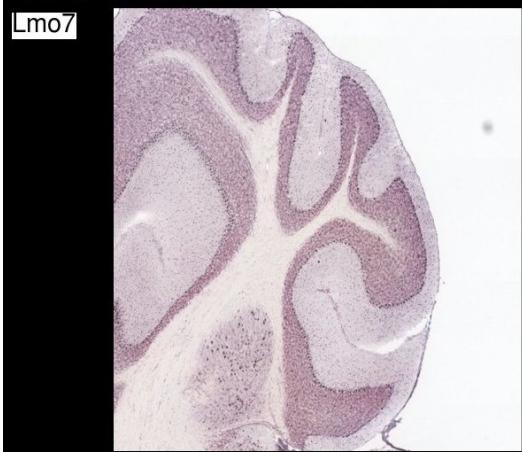
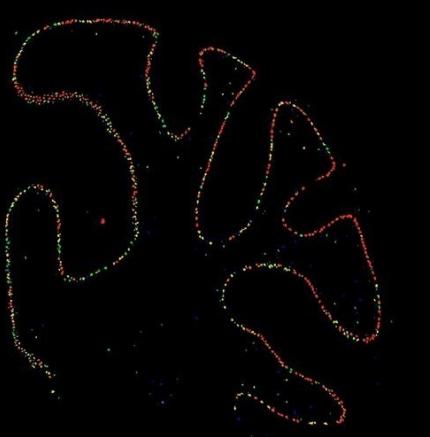
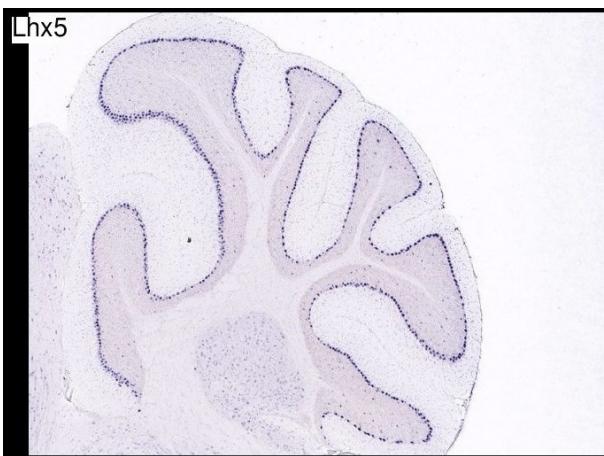


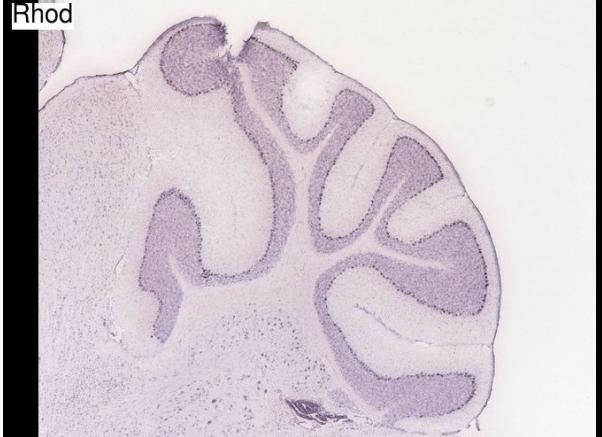
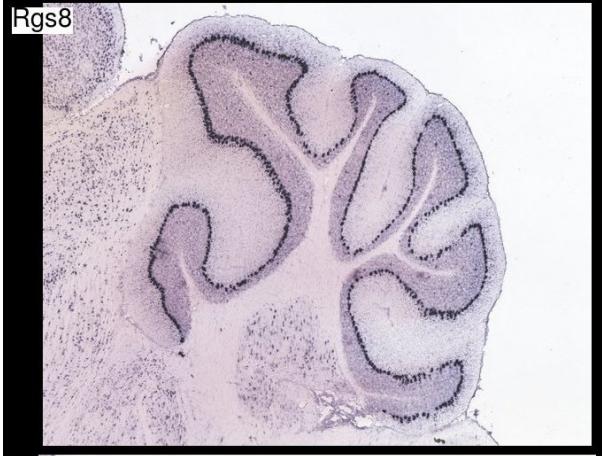
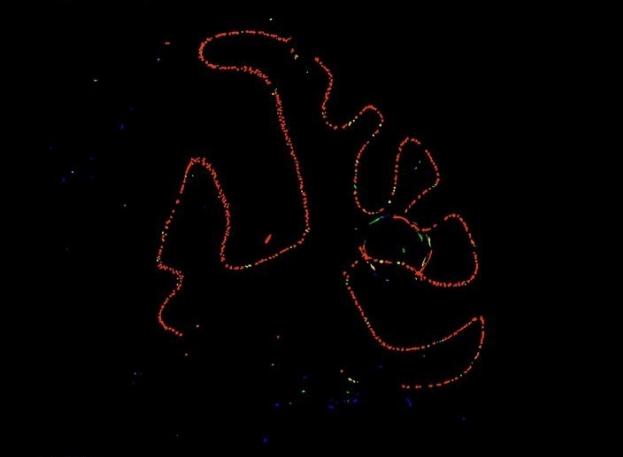
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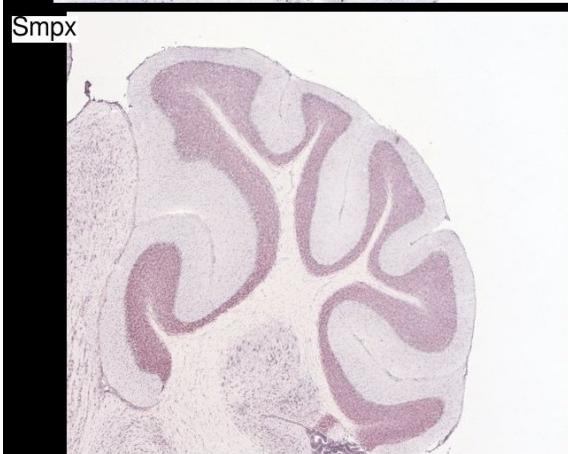
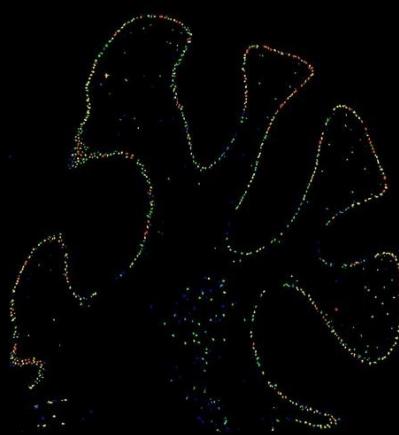
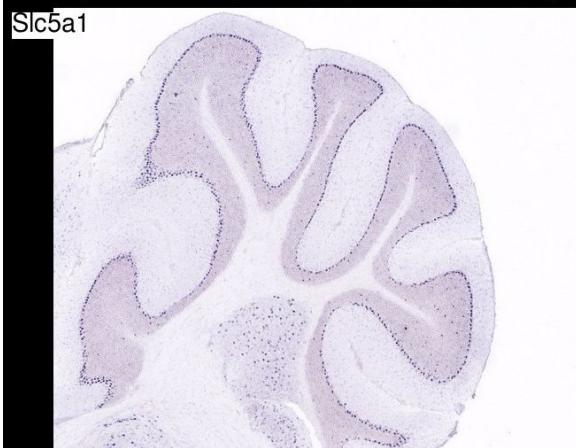
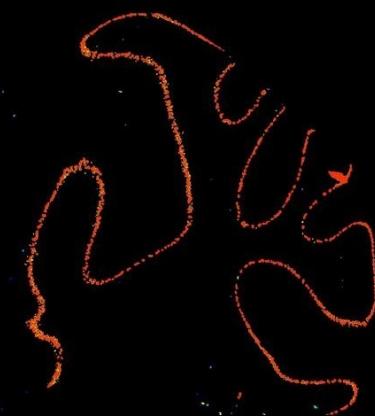
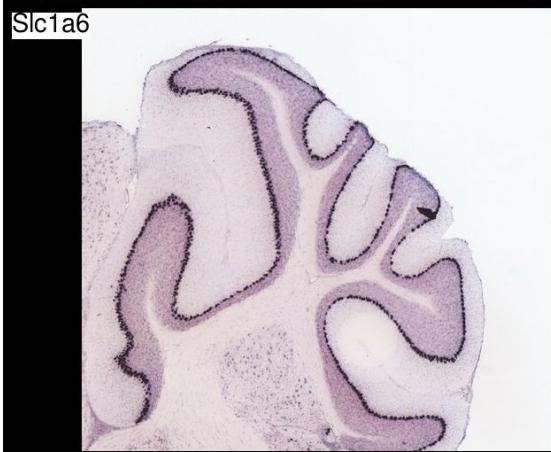












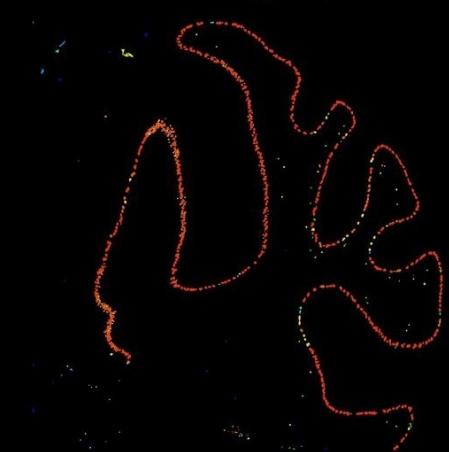
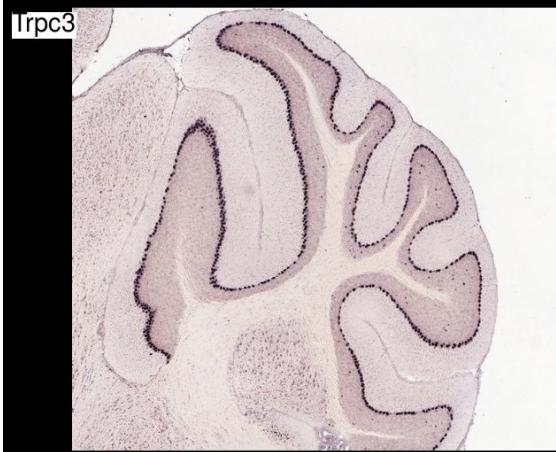
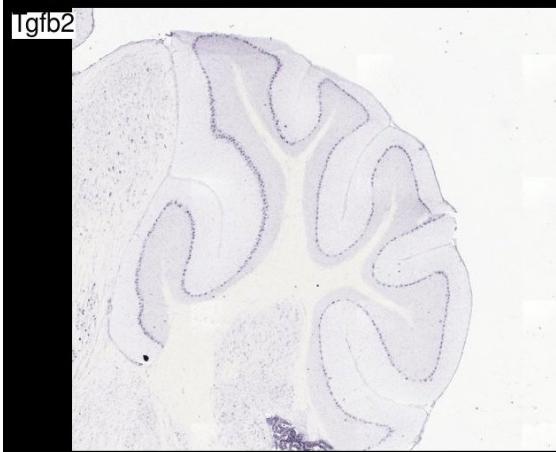
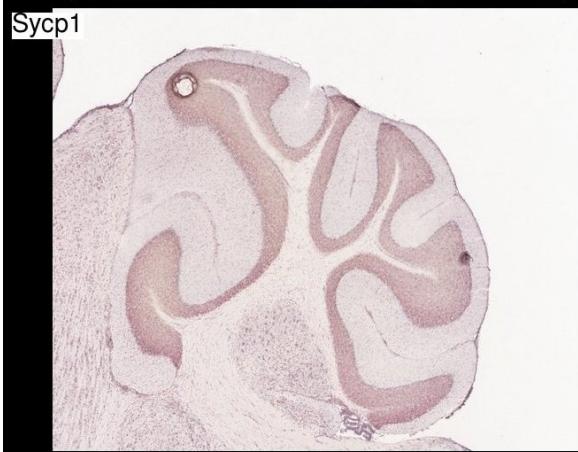


Table S1: Validation status of dentate granule cell markers.

Gene	Status	Note
Anxa11	ok	
B3galnt2	ok	
C77370	ok	
Ccdc71l	ok	
Cdhr1	ok	
Dsg2	ok	
Dsp	ok	
Ehd1	ok	
Eml5	ok	
Epha7	ok	
Flywch2	ok	auto capture missed the region but it's ok
Lamb1	ok	
Lct	ok	
Lhx9	not specific	
Neurod1	ok	
Nhsl2	not in ABA	
Npnt	ok	
Npy2r	ok	
Npy5r	ok	
Ogn	not in ABA	
Pgam2	not in ABA	
Pter	not expressed	Not expressed anywhere else in the entire slide
Ptprk	ok	
Spint2	ok	Some expression outside hippocampus
St8sia4	not expressed	Sporadic expression in the rest of the slide
Stx3	ok	
Tanc1	ok	
Tdo2	ok	
Tiam1	ok	
Trpc6	ok	

Table S2: Validation status of purkinje cell markers.

Gene	Status	Note
Atp2a3	ok	
B3gnt5	ok	
Bcl11a	not expressed	is expressed on the rest of the slide
Bean1	ok	
Cacna1g	ok	
Cacna2d2	not specific	
Calb1	ok	
Casq2	ok	
Cck	ok	
Col18a1	ok	
Dgkg	not expressed	Not expressed anywhere else in the entire slide
Doc2b	ok	
Ebf1	not in ABA	
Ebf2	ok	low but specific. Better seen from the whole slide image
Eps8l2	not expressed	Not expressed anywhere else in the entire slide
Fam174b	not in ABA	
Gipc2	ok	low but specific. Better seen from the whole slide image
Gng13	ok	
Grik1	ok	
Homer3	ok	
Icmt	ok	
Igfbp3	ok	low but specific. Better seen from the whole slide image
Igfbp6	ok	
Itpk1	ok	
Kcnip1	ok	
Krt25	ok	
Lhx5	ok	
Lmo7	ok	
Nrk	not expressed	Not expressed anywhere else in the entire slide
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 entire slide
Stac	ok	
Sycp1	not expressed	Not expressed anywhere else in the entire slide
Tgfb2	ok	
Trpc3	ok	
Tuba8	not in ABA	