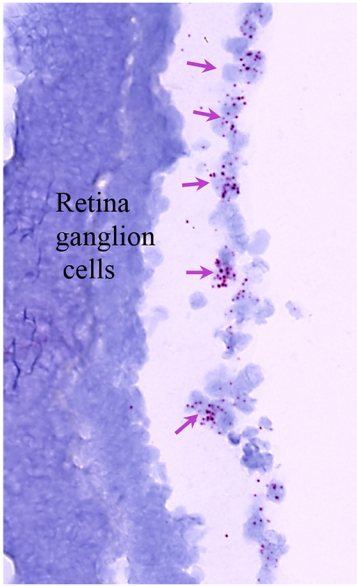
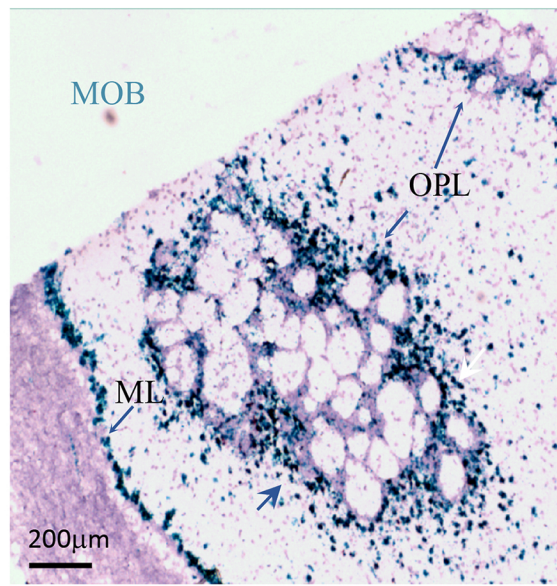


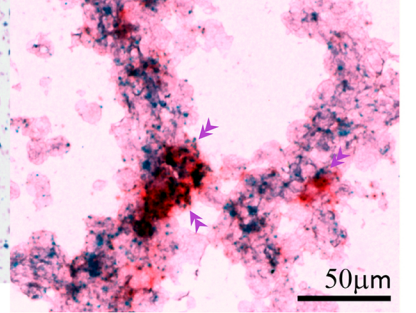
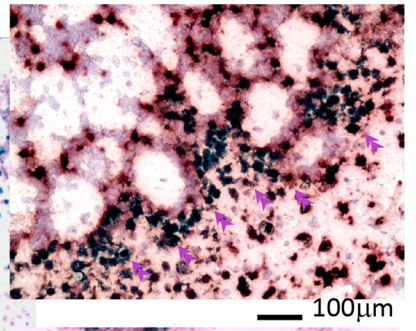
A1 *Adcyap1* in retina



A2 *Adcyap1* (PACAP mRNA expressing)



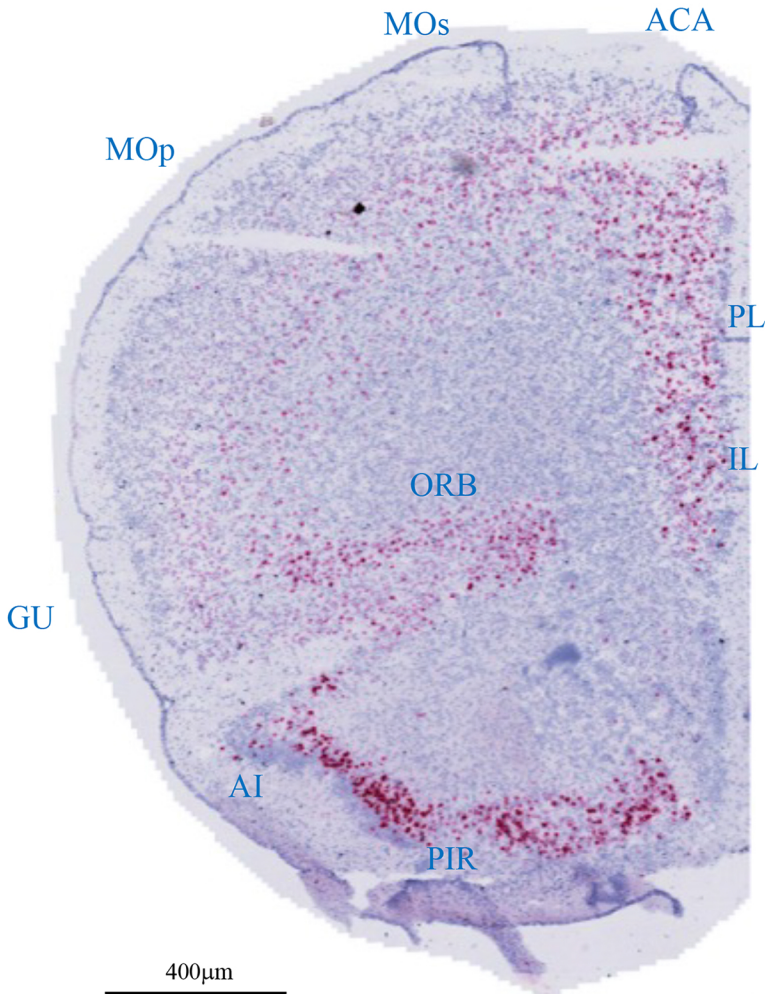
Adcyap1 / *Slc17a7* (VGLUT1)



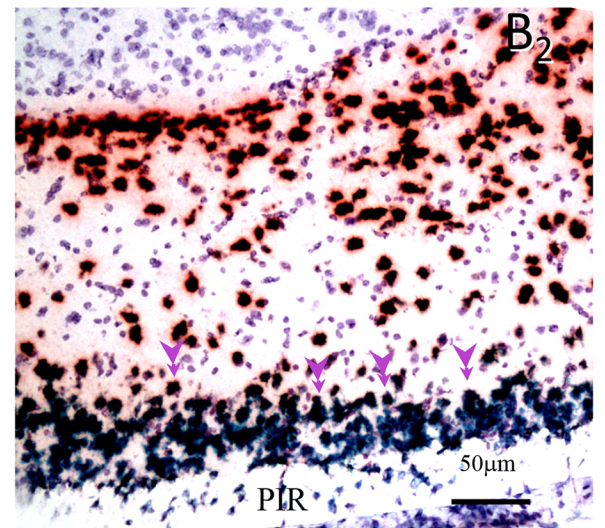
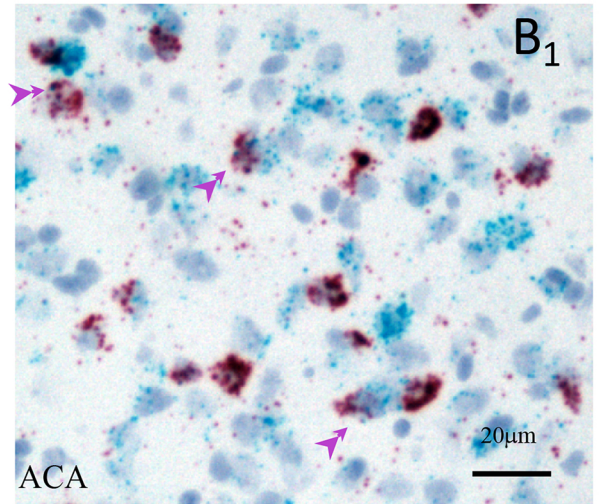
Adcyap1 / *Slc32a1* (VGAT)

B

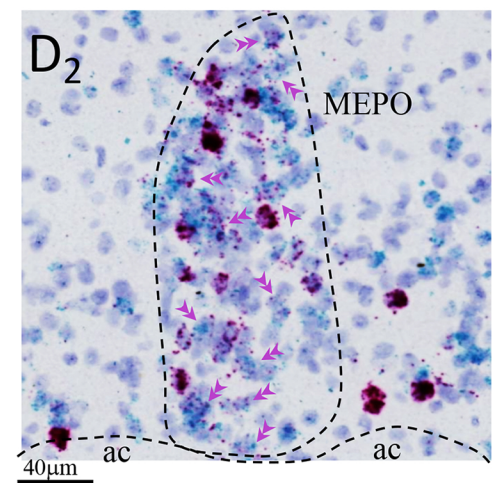
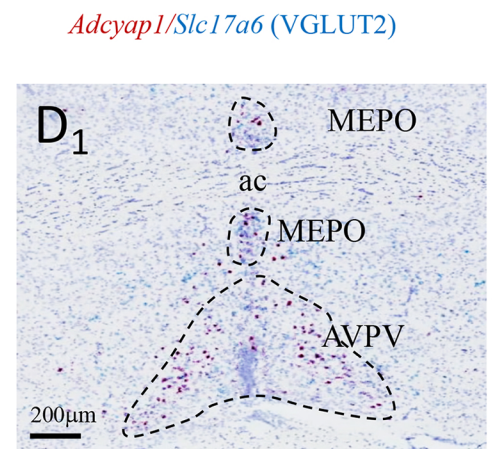
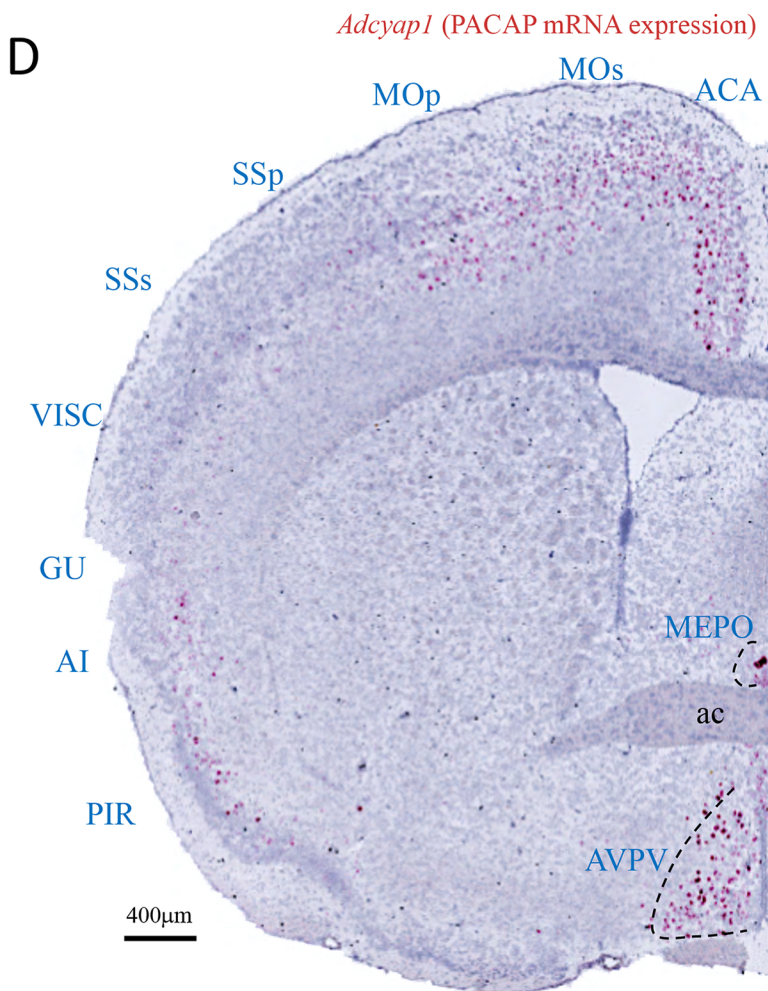
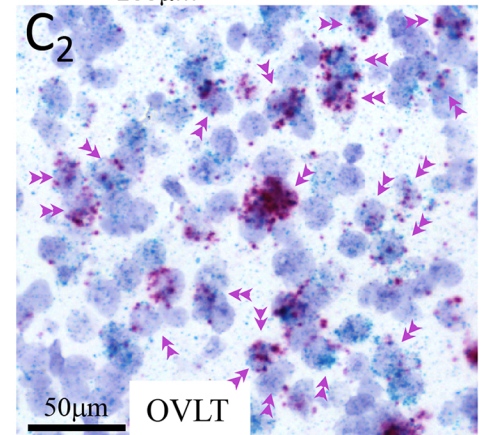
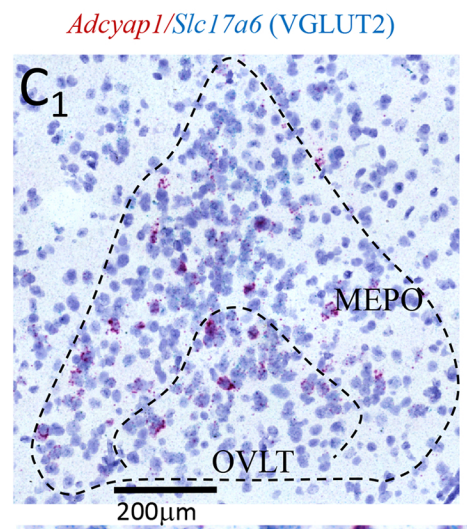
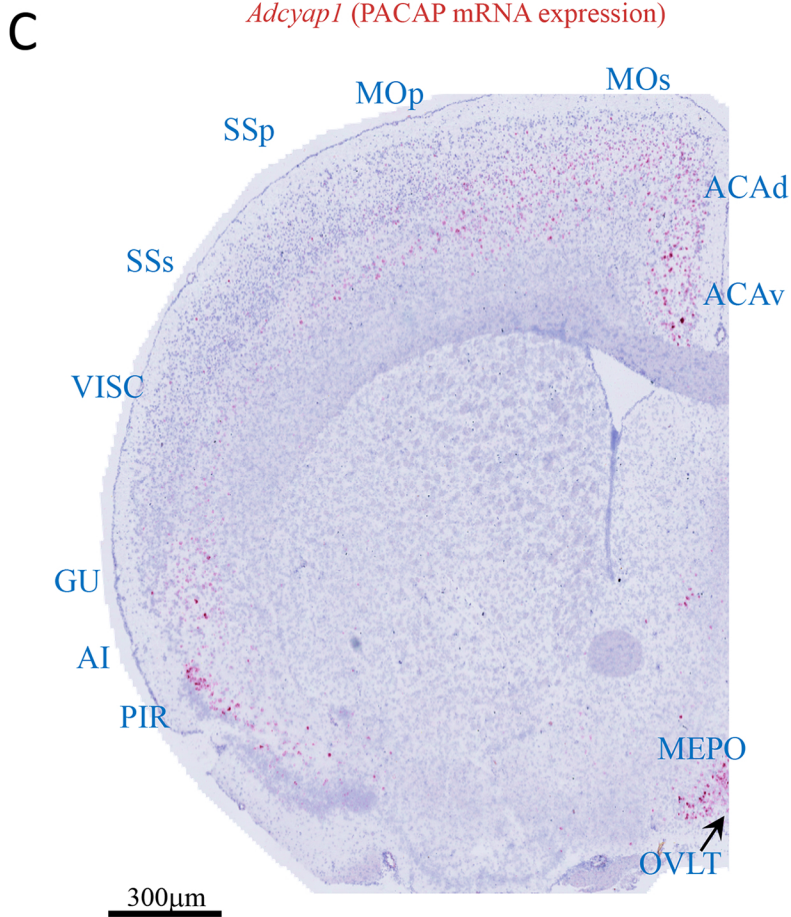
Adcyap1 (PACAP mRNA expression)

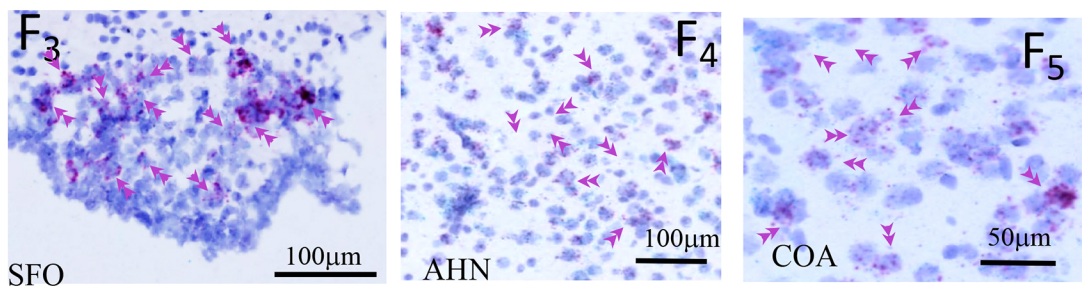
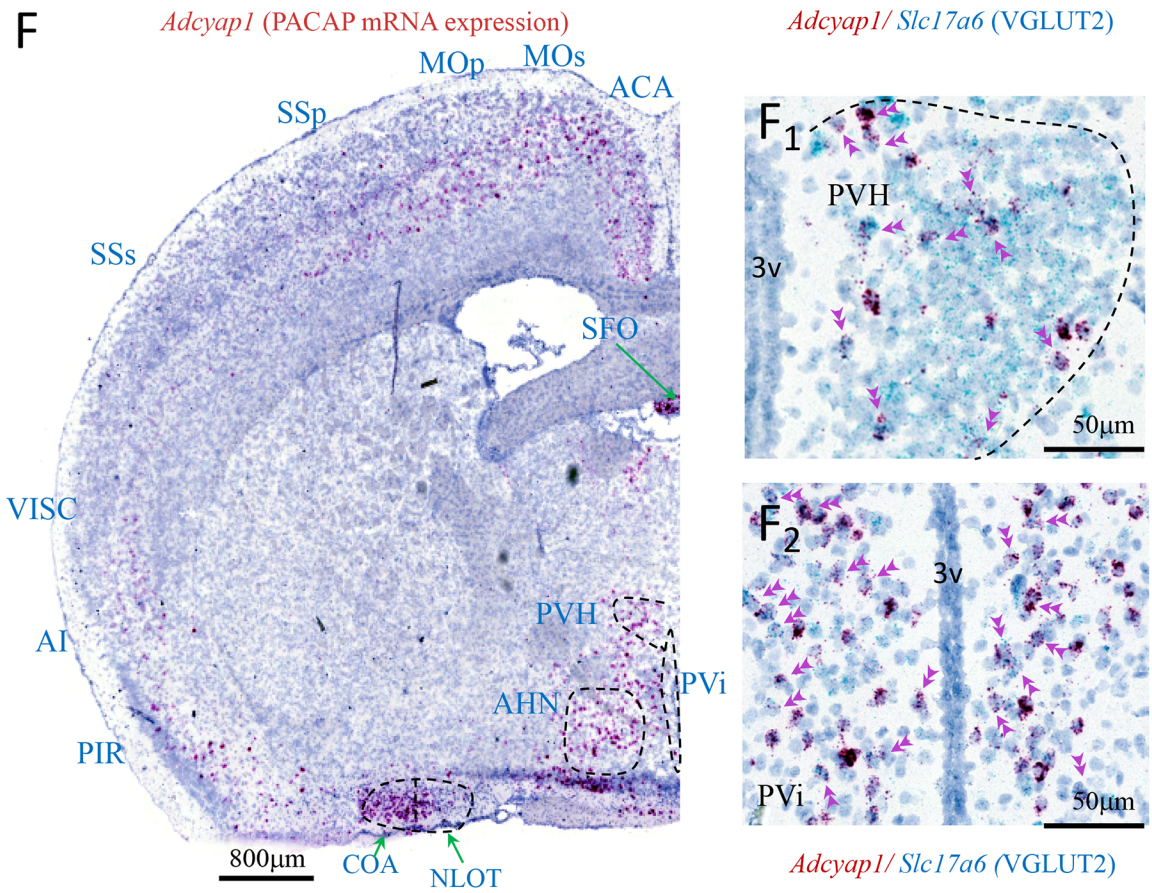
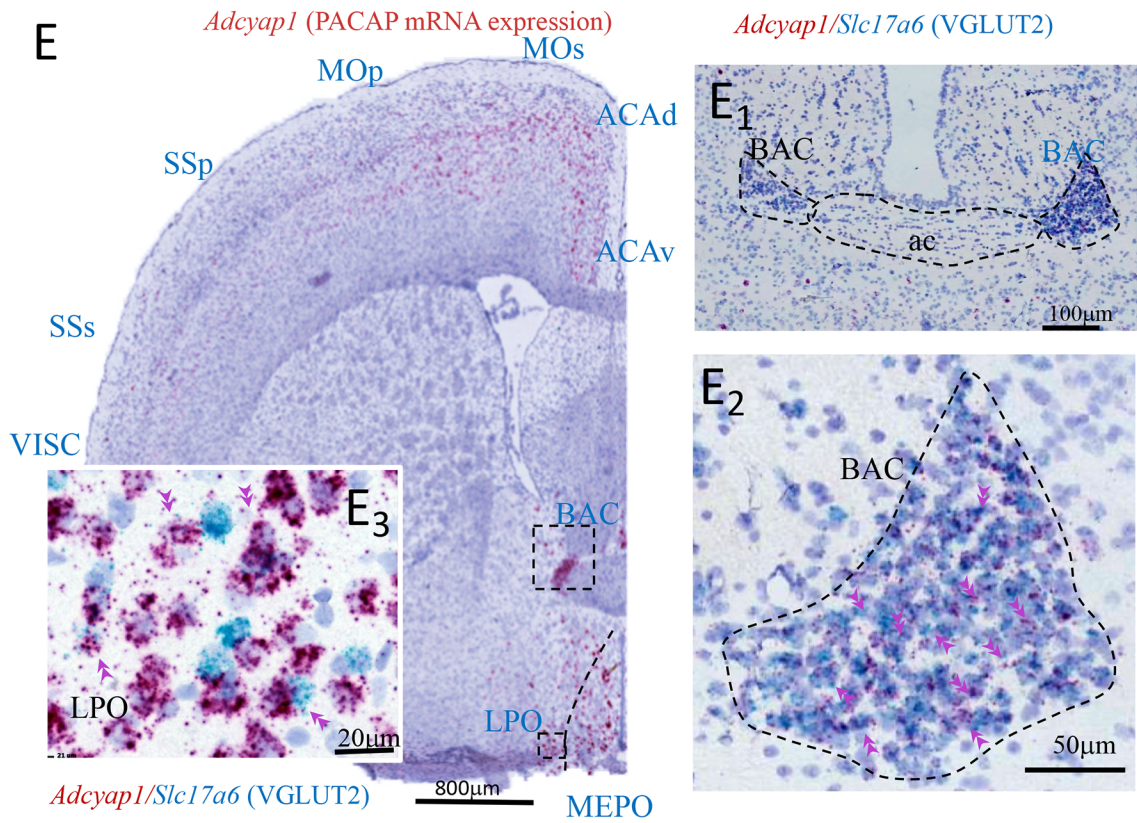


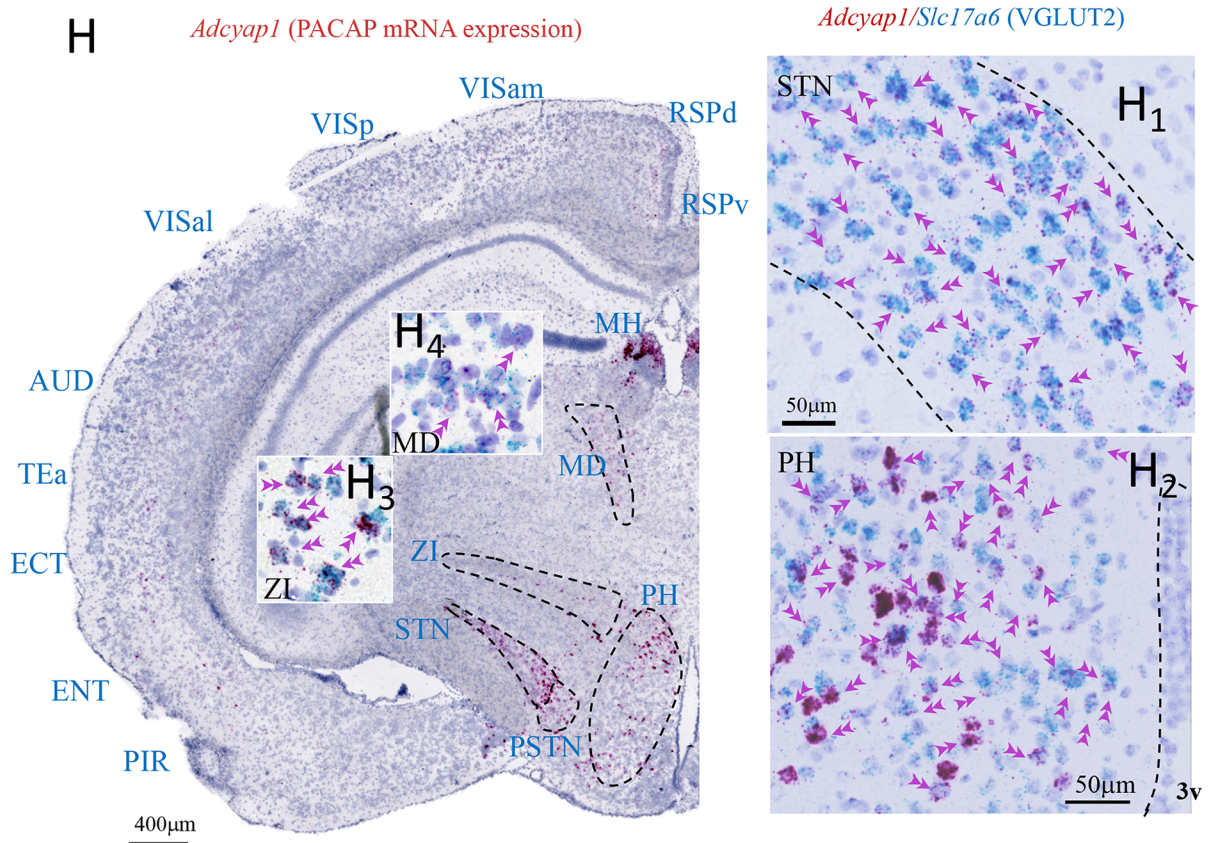
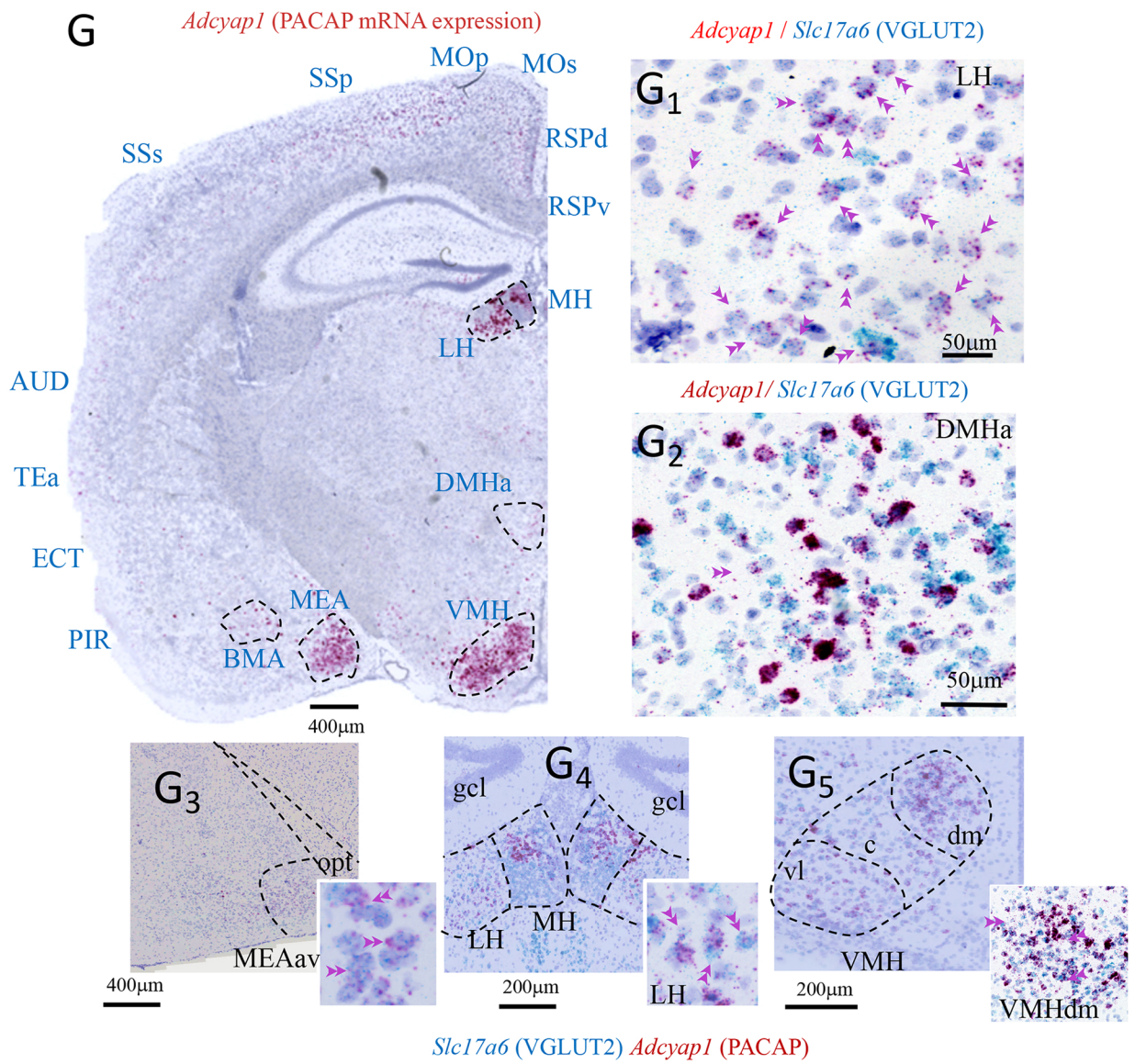
Adcyap1/ *Slc32a1* (VGAT)

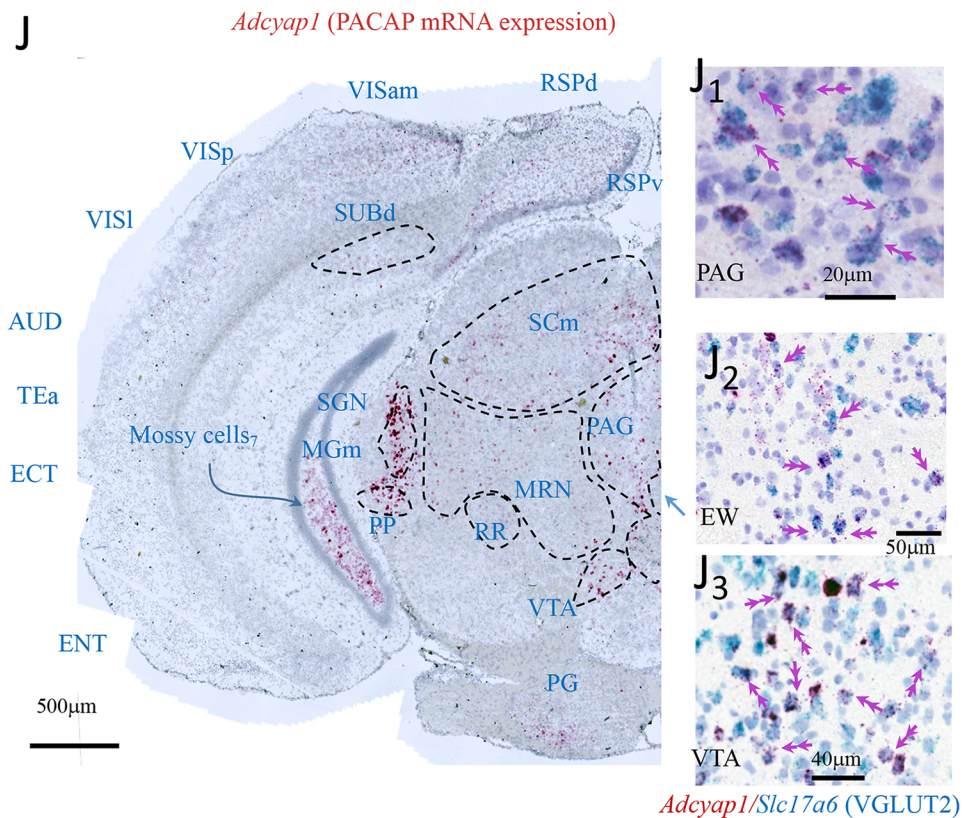
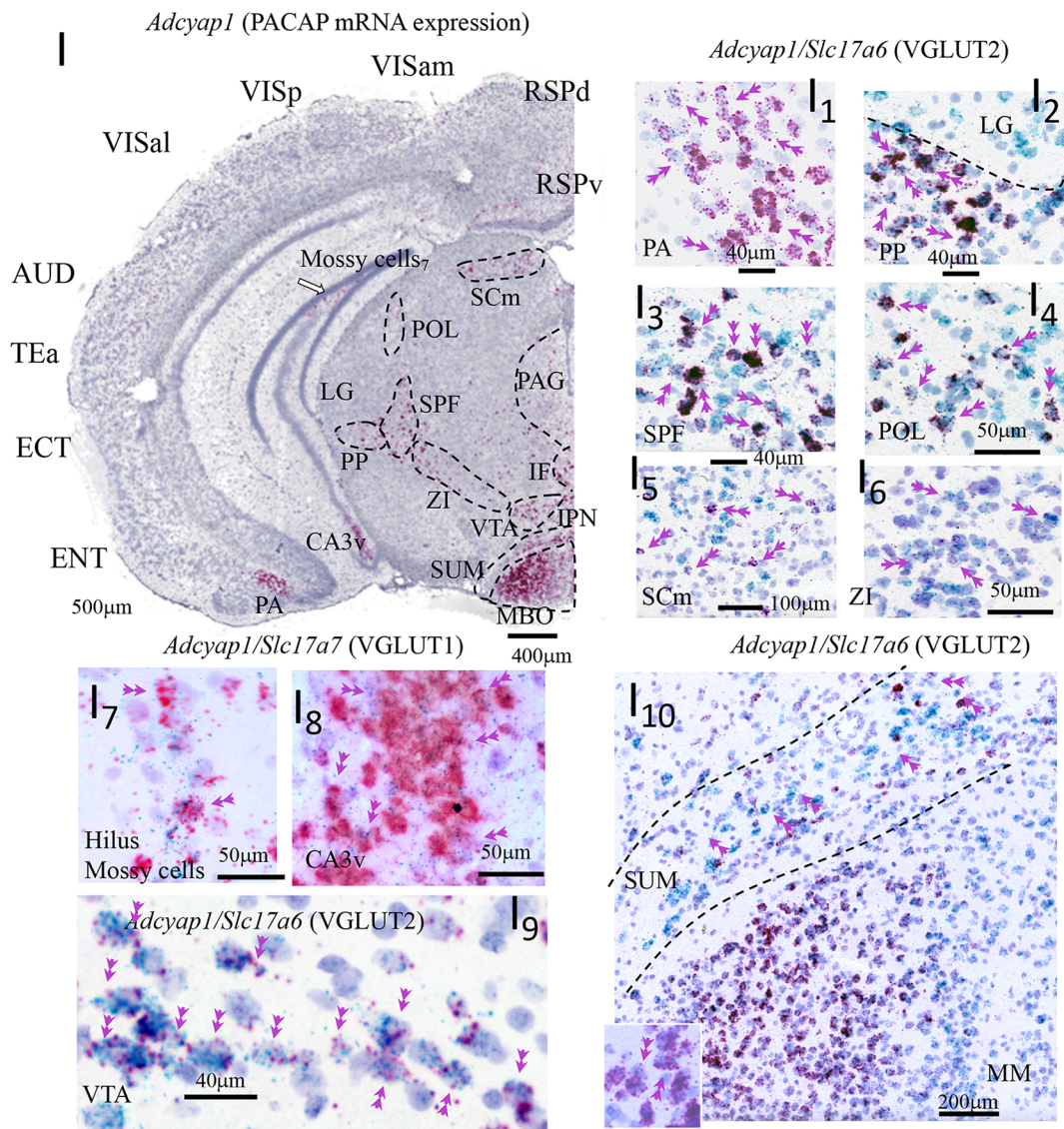


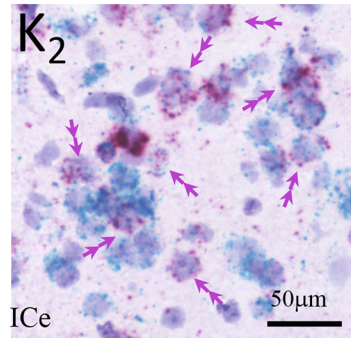
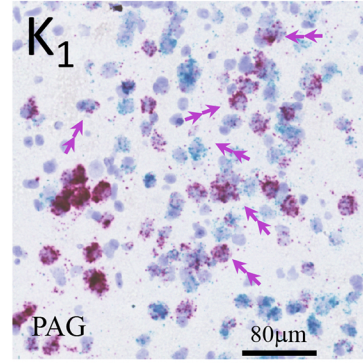
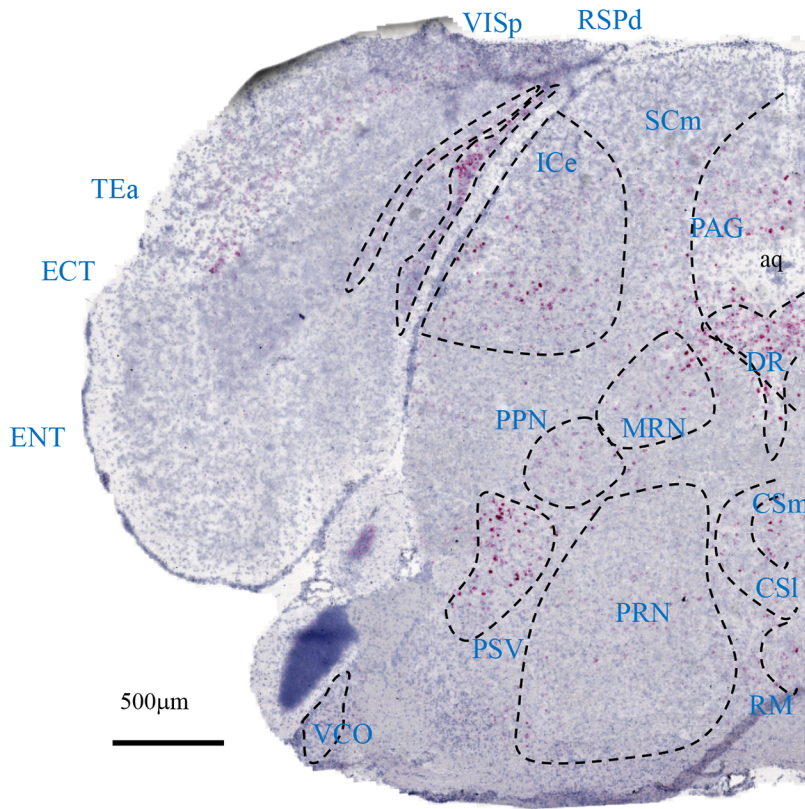
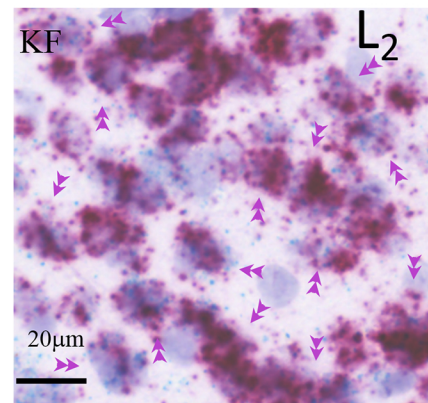
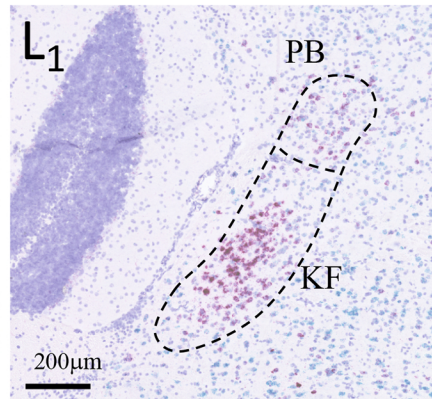
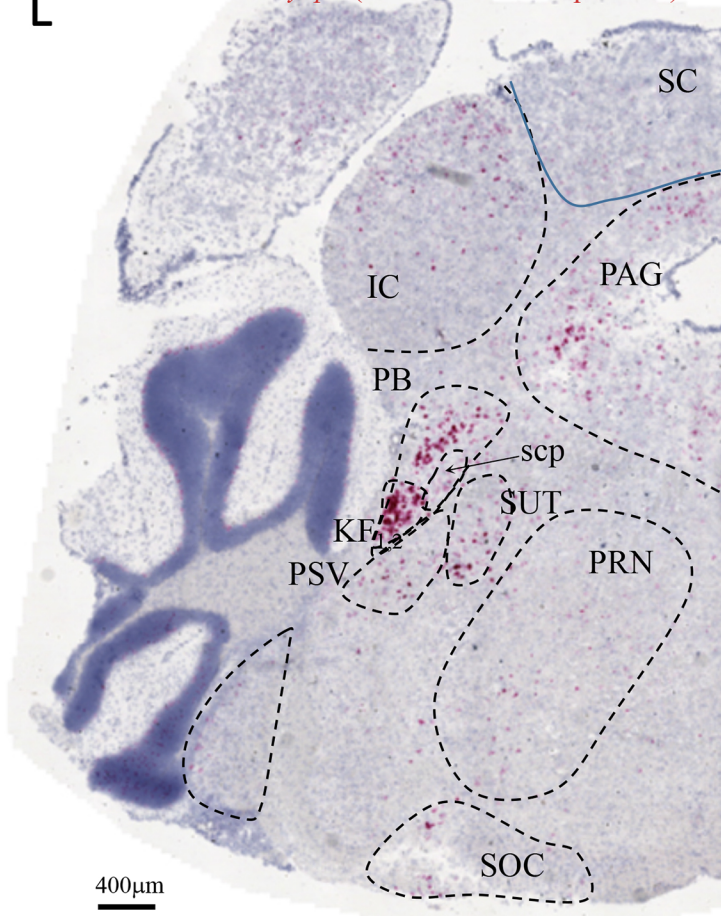
Adcyap1/ *Slc17a7* (VGLUT1)



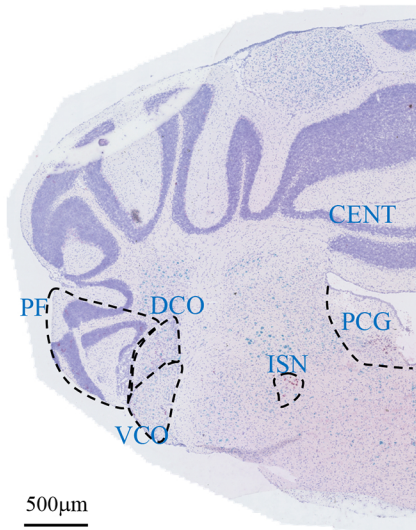




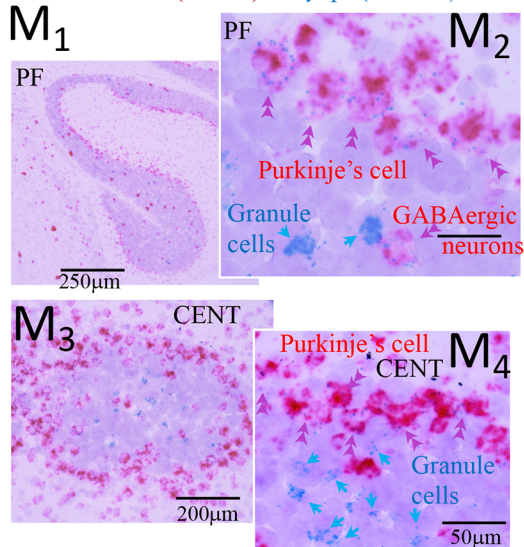


K*Adcyap1* (PACAP mRNA expression)*Adcyap1/Slc17a6* (VGLUT2)**L***Adcyap1* (PACAP mRNA expression)*Adcyap1/Slc17a7* (VGLUT1)

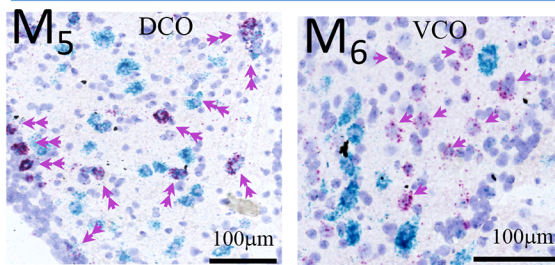
M *Adcyap1/Slc17a6* (VGLUT2)



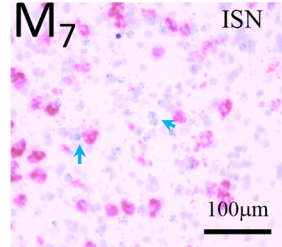
Slc32a1(VGAT)/*Adcyap1*(PACAP)



Adcyap1/Slc17a6 (VGLUT2)

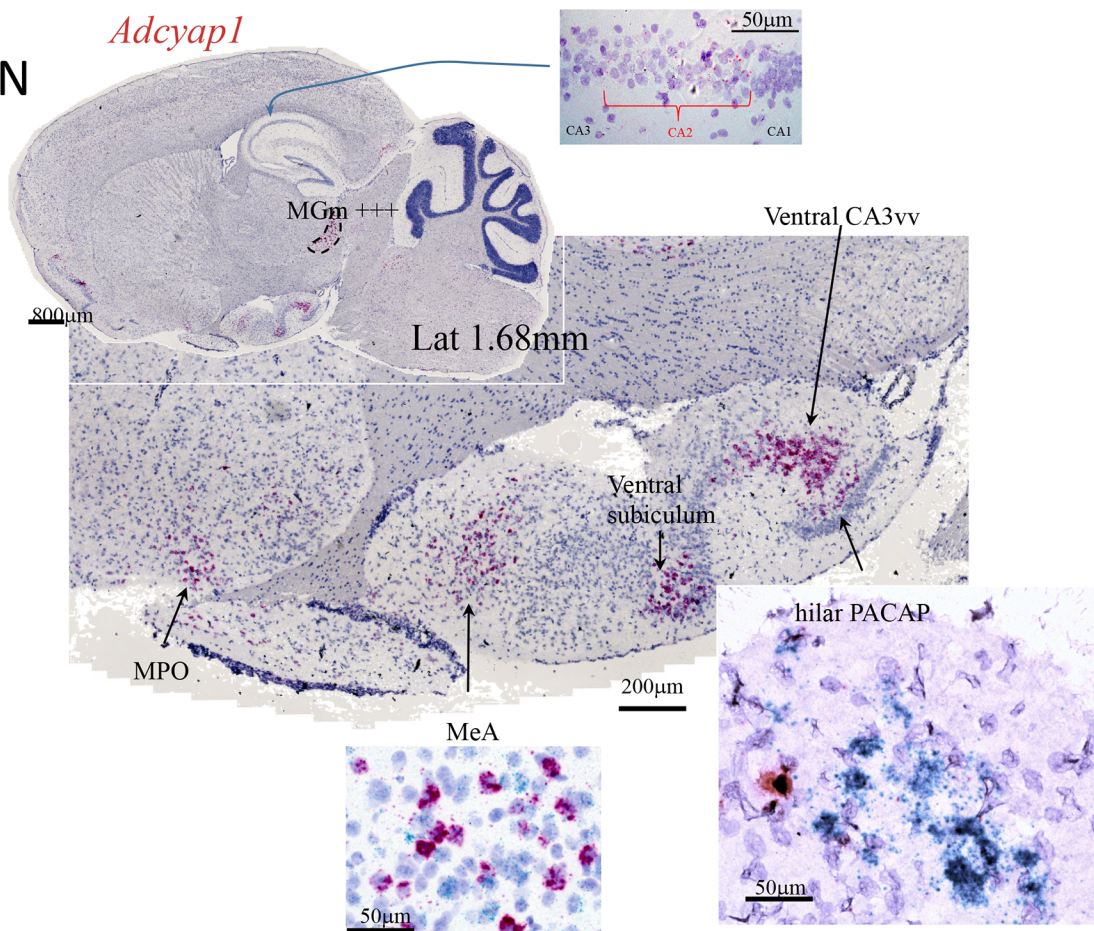


Slc32a1(VGAT)/*Adcyap1*(PACAP)



N

Adcyap1

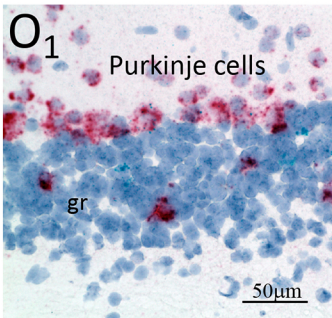
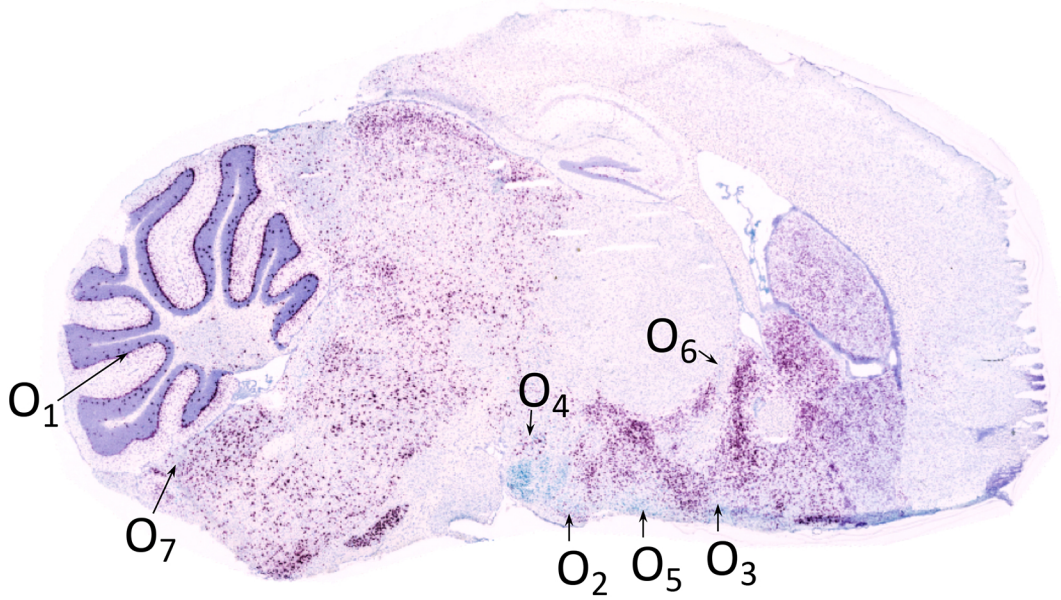


Adcyap1/Slc32a1

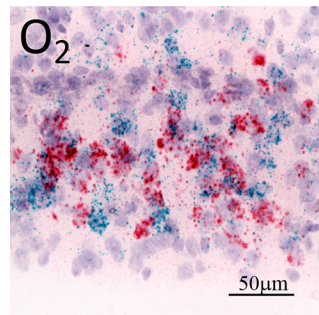
Adcyap1/Slc32a1

Slc32a1(VGAT)/*Adcyap1*(PACAP)

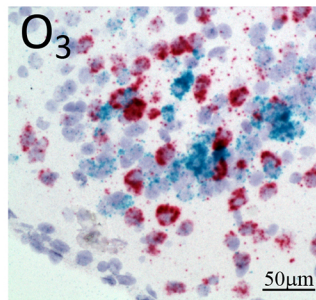
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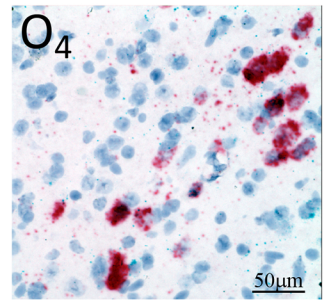
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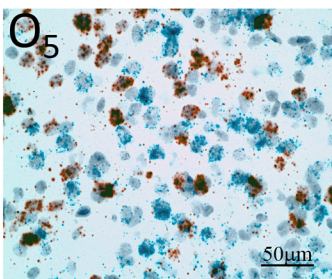
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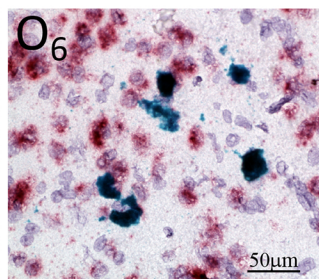
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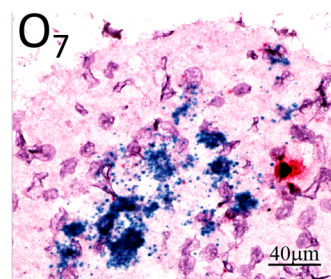
SUM



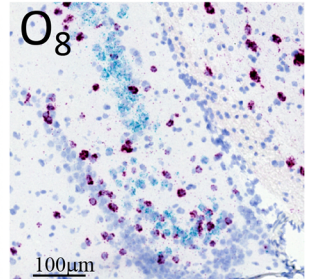
VMH



BSTpl



NTS



vHi

Figure 1 - source data

Comprehensive DISH mapping of PACAP co-expression with VGLUT1, VGLUT2 and VGAT throughout mouse brain reveals an extensive distribution and diversity of cell types. *Adcyap1*, PACAP-mRNA mapping within glutamatergic and GABAergic subpopulations of mouse brain. *Slc17a7*, *Slc17a6* and *Slc32a1*: mRNAs encoding the VGLUT1, VGLUT2 and VGAT, with respective color coding for the chromogens labeling the corresponding mRNAs. Double arrows indicate examples of colocalization of two probe mRNAs and single arrows indicate no-co-expression in given cells. Panels **A-O**: coronal and sagittal sections taken from the indicated Bregma or medio-lateral coordinates. The combination of mRNA probes is indicated with respective colors corresponding to the DISH method end products. The high magnification panels are examples with relevant molecular features, of the regions labeled within low magnification photomicrographs (see the abbreviations *vide infra*). Note that the high magnifications photos are not from the same experiment of the low magnification. Abbreviations: 3v: third ventricle; ACA: anterior cingulate area; ac: anterior commissure; AHN: anterior hypothalamic nucleus; AI: agranular insular area; AONpv: anterior olfactory nucleus, postero-ventral; AUD: auditory areas; AVPV: antero-ventral periventricular nucleus; BAC: bed nucleus of anterior commissure; BSTpl: Bed nucleus of the stria terminalis, posterolateral; CA3v: ventral hippocampal formation, CA3; CBpj: purkinje layer of the cerebellum; CENT: central lobule of the cerebellum; COA: cortical amygdala; CSm: superior central nucleus raphe, medial part; CSI: superior central nucleus raphe, lateral part; DCO: dorsal cochlear nucleus; DR: Dorsal raphe nucleus; DMHa: dorsomedial nucleus of the hypothalamus, anterior part; ECT: ectorrinal area; ENT: entorrinal area; FL: flocculus; NLOT: nucleus of the lateral olfactory tract; gcl: granule cell layer; GU: gustatory area; IC: inferior colliculus; ICe: inferior colliculus external nucleus; IF: interfascicular nucleus of the raphe; IL: infralimbic area; IPN: interpeduncular nucleus; ISN: inferior salivatory nucleus; KF: Koelliker-Fuse subnucleus; LH: lateral habenula; ISN: inferior salivatory nucleus; LPO: lateral preoptic area; MD: mediodorsal nucleus of the thalamus; MEA: medial amygdala; MEPO: median preoptic nucleus; MGm: medial geniculate complex, medial part; MH: medial habenula; MM: medial mammillary nucleus; MOB: main olfactory bulb; MOp: primary motor area; MOS: supplemental motor area; MPO: medial preoptic area; MRN: midbrain reticular nucleus; NTS: nucleus of the tractus solitarius; opt: optic tract; ORB: orbital area; OV: vascular organ of lamina terminalis; PA: posterior amygdalar nucleus; PAG: periaqueductal gray; PB: parabrachial nucleus; PCG: contine central gray; PG: pontine gray; PH: posterior hypothalamic nucleus; PIR: piriform area; PL: prelimbic area; POL: posterior limiting nucleus of the thalamus; PP: peripeduncular nucleus; PPN: pedunculo pontine nucleus; PRN: pontine reticular nucleus; PSTN: parasubthalamic nucleus; PSV: principal sensory nucleus of the trigeminal nerve; RR: midbrain reticular nucleus, retrorubral area; RSPd: retrosplenial area dorsal; RSPv: retrosplenial area dorsal; PVH: periventricular hypothalamic nucleus; PVi: periventricular hypothalamic nucleus, intermediate part; RM: raphe magnus; SC: superior colliculus; SCm: superior colliculus, motor related; SFO: subfornical organ; SPF: subparafascicular nucleus; STN: subthalamic nucleus; SUBd: subiculum dorsal part; SGN: supragenulate nucleus; SOC: superior olivary complex; SUM: supramammillary nucleus; TEa: Temporal association area; TM : tuberomammillary nucleus; VCO: ventral coclear nucleus; VISam: anteromedial visual área; VISp: primary visual area; VISal: anterolateral visual area; VISl: lateral visual area; VISC: visceral area; vHi: ventral hippocampus; VMH: ventromedial hypothalamic nucleus; VMHc: ventromedial hypothalamic nucleus, central part; VMHdm: ventromedial hypothalamic nucleus, dorsomedial part; VMHvl: ventromedial hypothalamic nucleus, ventrolateral part; VTA: ventral tegmental area; ZI: zona incerta.