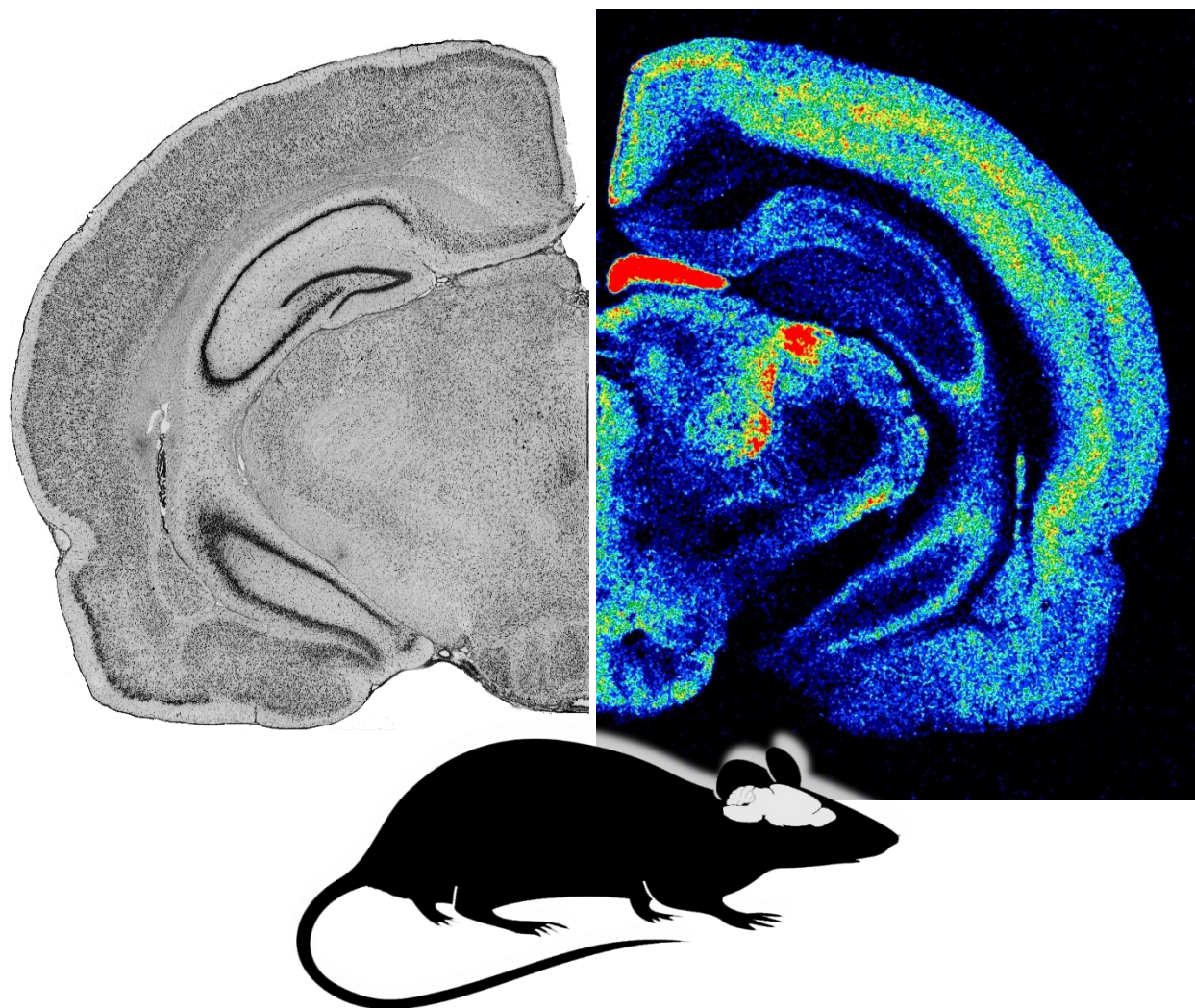


A new map of the rat isocortex and proisocortex: Cytoarchitecture and M₂ receptor distribution patterns (Supplementary material)



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*Authors contributed equally

INDEX

3V third ventricle
4V fourth ventricle

A

AA anterior amygdaloid area
ac anterior commissure
AcbC accumbens nucleus, core
AcbR accumbens nucleus, rostral pole
AcbSh accumbens nucleus, shell
ACo amygdala, anterior cortical nucleus
AD anterodorsal thalamic nucleus
AE amygdalo-entorhinal transition area
AHiAL amygdalohippocampal area, anterolateral part
AHiPL amygdalohippocampal area, posterolateral part
AHiPM amygdalohippocampal area, posteromedial part
Ald insular cortex, agranular part, dorsal region
Alp insular cortex, agranular part, posterior region
Alv insular cortex, agranular part, ventral region
AM anteromedial thalamic nucleus
AmbC nucleus ambiguus, compact part
AO anterior olfactory nucleus
AOd anterior olfactory nucleus, dorsal part
AOe anterior olfactory nucleus, external part
AOl anterior olfactory nucleus, lateral part
AOm anterior olfactory nucleus, medial part
AOp anterior olfactory nucleus, posterior part
AOv anterior olfactory nucleus, ventral part
AOvp anterior olfactory nucleus, ventroposterior part
APir amygdalopiriform transition area
aq aqueduct
ASt amygdalostriatal transition area
AV anteroventral thalamic nucleus

B

BLA amygdala, basolateral nucleus, anterior part
BLP amygdala, basolateral nucleus, posterior part
BLV amygdala, basolateral nucleus, ventral part
BMA amygdala, basomedial nucleus, anterior part
BMP amygdala, basomedial nucleus, posterior part

C

CA1 CA1 field of hippocampus
CA2 CA2 field of hippocampus
CA2/3 CA2 and CA3 fields of hippocampus
CA3 CA3 field of hippocampus
CA4 CA4 field of hippocampus
CB cell bridges of the ventral striatum
Cb cerebellum
cbw cerebellar white matter
cc corpus callosum
CC central canal
CE caudal entorhinal field
Ce amygdala, central nucleus
CeC amygdala, central nucleus, capsular part
CeL amygdala, central nucleus, lateral division
CeM amygdala, central nucleus, medial division

CG central gray
Cg1 cingulate cortex, area 1
Cg1' cingulate cortex, area 1'
Cg2d cingulate cortex, area 2, dorsal part
Cg2'd cingulate cortex, area 2', dorsal part
Cg2v cingulate cortex, area 2, ventral part
Cg2'v cingulate cortex, area 2', ventral part
Cg3 cingulate cortex, area 3
cic commissure of inferior colliculi
Cl claustrum, anterior part
Cld claustrum, dorsal part
Clv claustrum, ventral part
CM central medial thalamic nucleus
cpd cerebral peduncle
CPu caudate-Putamen (striatum)
CS superior central raphe nucleus
csc commissure of superior colliculi
cst corticospinal tract
cu cuneate fascicle
CUN cuneiform nucleus
CxA amygdala-cortex transition zone

D

DC dorsal cochlear nucleus
DEn dorsal endopiriform nucleus
df dorsal fornix
DI insular cortex, dysgranular part
DIE dorsal intermediate entorhinal field
Dlp insular cortex, posterior dysgranular part
DLE dorsal lateral entorhinal field
DLO orbital cortex, dorsolateral part
DMX dorsal motor nucleus of vagus nerve
DN dentate nucleus
DP dorsal peduncular cortex
DR dorsal raphe
dscp superior cerebellar peduncle
DTr dorsal transition zone
DTT Dorsal tenia tecta

E

EctD ectorhinal cortex, anterior part, dorsal region
EctP ectorhinal cortex, posterior part
EctV ectorhinal cortex, anterior part, ventral region
ECU external cuneate nucleus
em external medullary lamina

F

f fornix
FC fasciola cinerea
FD fascia dentata
fi fimbria of hippocampus
fr fasciculus retroflexus
Fr1 frontal cortex, area 1
Fr2 frontal cortex, area 2
Fr3 frontal cortex, area 3

G

Gi gigantocellular reticular nucleus
Gia insular cortex, granular part, anterior region

Gip insular cortex, granular part, posterior region
 GP globus pallidus
 Gr gracile nucleus

I

I amygdala, intercalated nucleus
 IAM interanteromedial thalamic nucleus
 Ic internal capsule
 IC inferior colliculus
 icp inferior cerebellar peduncle
 IEn intermediate endopiriform nucleus
 III oculomotor nucleus
 IL infralimbic cortex
 IO inferior olivary complex
 IP interposed nucleus
 IPN interpeduncular nucleus

L

LaDL amygdala, lateral nucleus, dorsolateral part
 LaVL amygdala, lateral nucleus, ventrolateral part
 LaVM amygdala, lateral nucleus, ventromedialpart
 LC locus coeruleus
 Ld lambdoid septal zone
 LD lateral dorsal thalamic nucleus
 LDT laterodorsal tegmental nucleus
 LG lateral geniculate complex
 LHb lateral habenular nucleus
 lo lateral olfactory tract
 LO orbital cortex, lateral part
 Lot nucleus of the lateral olfactory tract
 LP lateral posterior thalamic nucleus
 LRN lateral reticular nucleus
 LSD lateral septal nucleus, dorsal part
 LSI lateral septal nucleus, intermediate part
 LSV lateral septal nucleus, ventral part
 LTer lemina terminalis
 LV lateral ventricle
 LVe lateral vestibular nucleus

M

mcp middle cerebellar peduncle
 MD mediodorsal thalamic nucleus
 MDL Mediodorsal thalamic nucleus, lateral part
 MDRN medullary reticular nucleus
 ME medial entorhinal field
 MeAD amygdala, medial nucleus, anterodorsal part
 MeAV amygdala, medial nucleus, anteroventral part
 Med medial cerebellar nucleus
 MePD amygdala, medial nucleus, posterodorsal part
 MePV amygdala, medial nucleus, posteroventral part
 MGN medial geniculate nucleus
 MHb medial habenular nucleus
 ML medial mammillary nucleus, lateral part
 ml medial lemniscus
 mlf medial longitudinal fascicle
 MM medial mammillary body
 MO orbital cortex, medial part
 MS medial septal nucleus
 mt mammillothalamic tract

MV medial vestibular nucleus

N

NLL nucleus of the lateral lemniscus
 NTB nucleus of the trapezoid body
 NTS nucleus of the solitary tract
 Nv navicular nucleus of the basal forebrain

O

OB olfactory bulb
 Oc1B binocular (nasal) primary occipital area
 Oc1M monocular (temporal) primary occipital area
 Oc2Lr rostrolateral secondary occipital cortex
 Oc2Lc caudolateral secondary occipital cortex
 Oc2Lid intermediate dorsolateral secondary occipital cortex
 Oc2Liv intermediate ventrolateral secondary occipital cortex
 Oc2ML mediolateral secondary occipital cortex
 Oc2MMA mediomedial secondary occipital cortex, anterior portion
 Oc2MMp mediomedial secondary occipital cortex, posterior portion
 och optic chiasm
 ON optic nerve
 opt optic tract
 ov olfactory ventricle

P

PaF parafascicular nucleus
 PAG periaqueductal gray
 Par1 parietal cortex, area 1
 Par1BF parietal cortex, area 1, barreelfield representation
 Par1DZ parietal cortex, area 1, dysgranular zone
 Par1DZO parietal cortex, area 1, oral dysgranular zone
 Par1Sh parietal cortex, area 1, shoulder representation
 Par1ULp parietal cortex, area 1, upper lip representation
 Par2 parietal cortex, area 2
 ParFL parietal cortex, forelimb area
 ParHL parietal cortex, hindlimb area
 ParPd parietal cortex, posterior part, dorsal region
 ParPv parietal cortex, posterior part, ventral region
 ParVc parietal cortex, ventroposterior part
 ParVr parietal cortex, ventroanterior part
 PaSd parasubiculum, dorsal part
 PaSv parasubiculum, ventral part
 PB parabrachial nucleus
 pc posterior commissure
 PF parafascicular thalamic nucleus
 PG pontine gray
 Pi pineal gland
 Pir1 piriform cortex, area 1
 Pir2 piriform cortex, area 2
 PLCo amygdala, posterolateral cortical nucleus
 pm peincipal mammillary tract
 PMCo amygdala, posteromedial cortical nucleus
 Pn pontine nuclei
 PnC pontine reticular nucleus, caudal part

PoRhD	postrhinal cortex, dorsal part	Sub	submedial thalamic nucleus
PoRhV	postrhinal cortex, ventral part	SuV	supratrigeminal nucleus
PoS	postsubiculum		
Pr	nucleus prepositus	T	
PRhD	perirhinal cortex, dorsal part	Te1	temporal cortex, area 1
PRhV	perirhinal cortex, ventral part	Te2d	temporal cortex, area 2, dorsal part
ProS	prosubiculum	Te2v	temporal cortex, area 2, ventral part
ProStr	area prostriata	Te3r	temporal cortex, area 3, rostral part
PrS	presubiculum	Te3v	temporal cortex, area 3, ventral part
PrV	principal sensory trigeminal nucleus	TRN	tegmental reticular nucleus
py	pyramidal tract	TS	triangular septal nucleus
		Tu	olfactory tubercle
		Tz	nucleus of the trapezoid body
R		V	
Re	reuniens nucleus	VA	ventral anterolateral thalamic nucleus
Rh	rhomboid nucleus	VC	ventral cochlear nucleus
RM	nucleus raphe magnus	VDB	nucleus of the vertical limb of diagonal band
RN	red nucleus	VEn	ventral endopiriform nucleus
RSA	retrosplenial cortex, agranular part	Vhc	ventral hippocampal commissure
RSGa	retrosplenial cortex, granular part, region a	VIE	ventral intermediate entorhinal field
RSGb	retrosplenial cortex, granular part, region b	VIn	facial nerve
RSGc	retrosplenial cortex, granular part, region c	VInn	vestibulocochlear nerve
Rt	reticular thalamic nucleus	VL	ventrolateral thalamic nucleus
RtTg	Reticulotegmental nucleus	VLO	orbital cortex, ventrolateral part
S		VM	ventromedial thalamic nucleus
S	subiculum	Vma	motor nucleus of the trigeminal nucleus, magnocellular part
SAG	sagulum nucleus	VMH	ventromedial hypothalamic nucleus
SC	superior colliculus	Vn	trigeminal nerve
scp	superior cerebellar peduncle	VO	orbital cortex, ventrol part
SEZ	subependymal zone	VP	ventral pallidum
SFi	septohippocampal nucleus	VPL	ventral posterolateral thalamic nucleus
SHi	septohypothalamic nucleus	VPM	ventral posteromedial thalamic nucleus
SHy	septohippocampal nucleus	vsc	ventral spinocerebellar tract
sm	stria medullaris thalami	VTN	ventral tegmental nucleus
SMT	submedial thalamic nucleus	VTT	ventral tenia tecta
SN	substantia nigra		
Sol	nucleus of the solitary tract	X	
SpIV	spinal vestibular nucleus	XII	Hypoglossal nucleus
sptV	spinal tract of the trigeminal nerve		
SpV	spinal nucleus of the trigeminal nerve	Z	
st	stria terminalis	ZI	zona incerta
ST	bed nucleus of stria terminalis		
STIA	bed nucleus of stria terminalis, intraamygdaloid division		

All sections are 20µm thick. Distance between sections is given by the difference between section numbers.

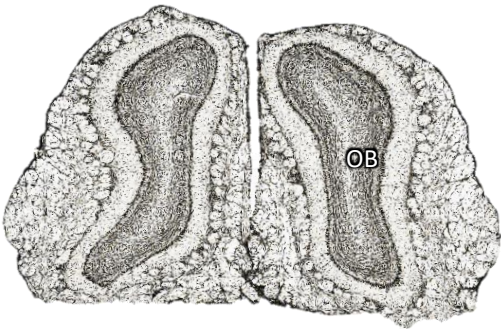
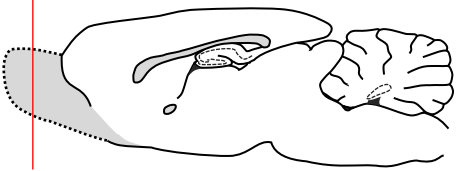
In muscarinic cholinergic M₂ receptor autoradiographs:

- Color scale indicates receptor densities in fmol/mg protein
- Dashed lines indicate somatotopic subdivisions within area Par1
- Dotted lines or asterisks mark sectioning/binding artifacts

Coronal series

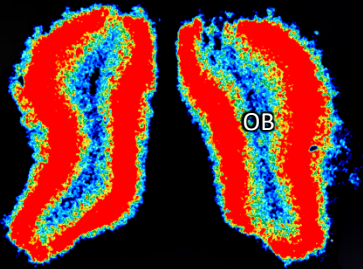
Level c1

Section 118



500μm

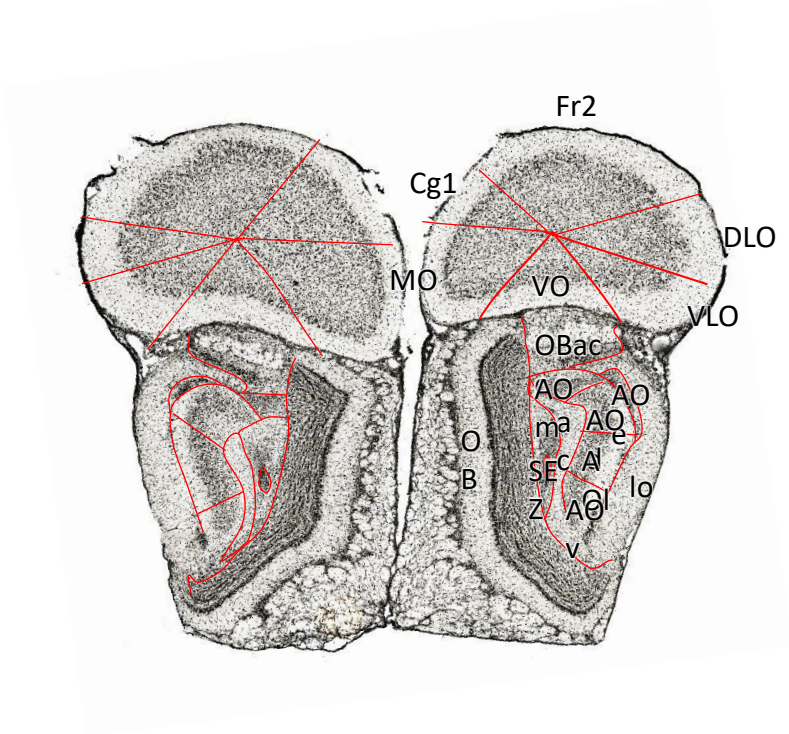
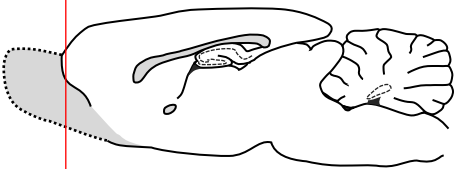
Section 119



0 155 309 464 618 773 927 1082 1236 1391 1545 1700

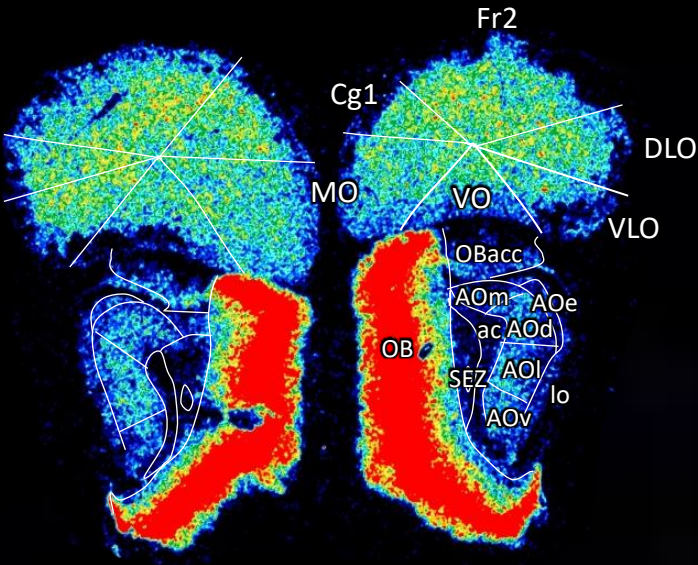
Level c2

Section 268



500µm

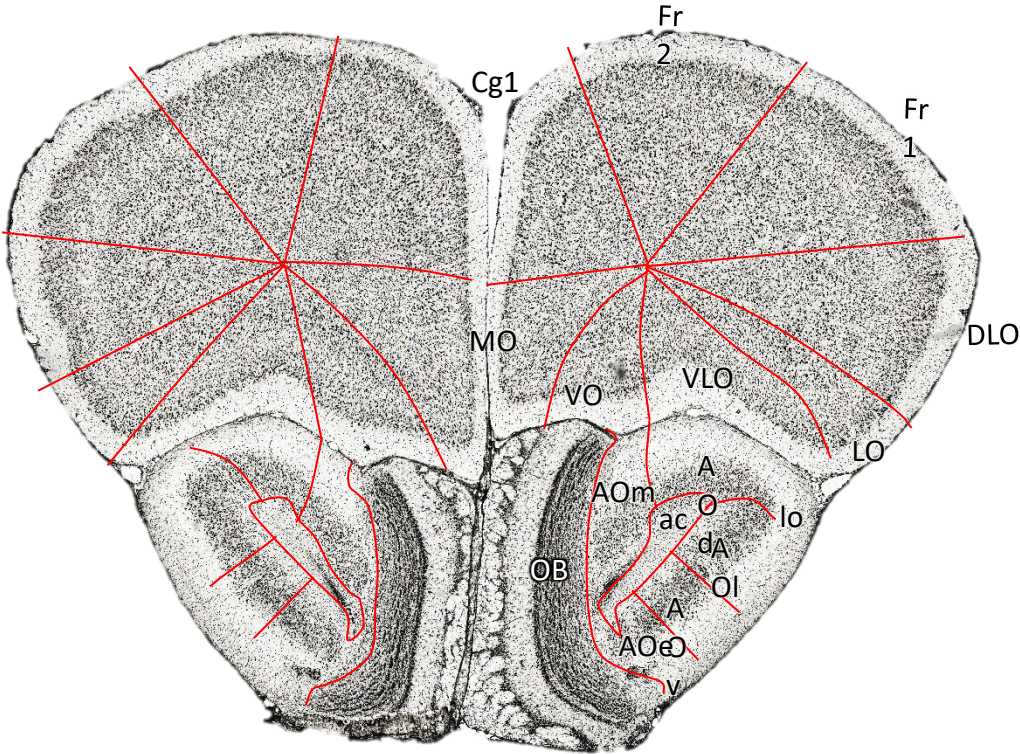
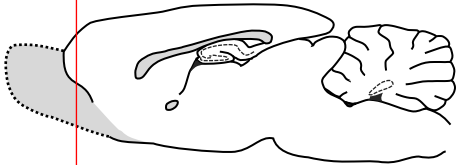
Section 269



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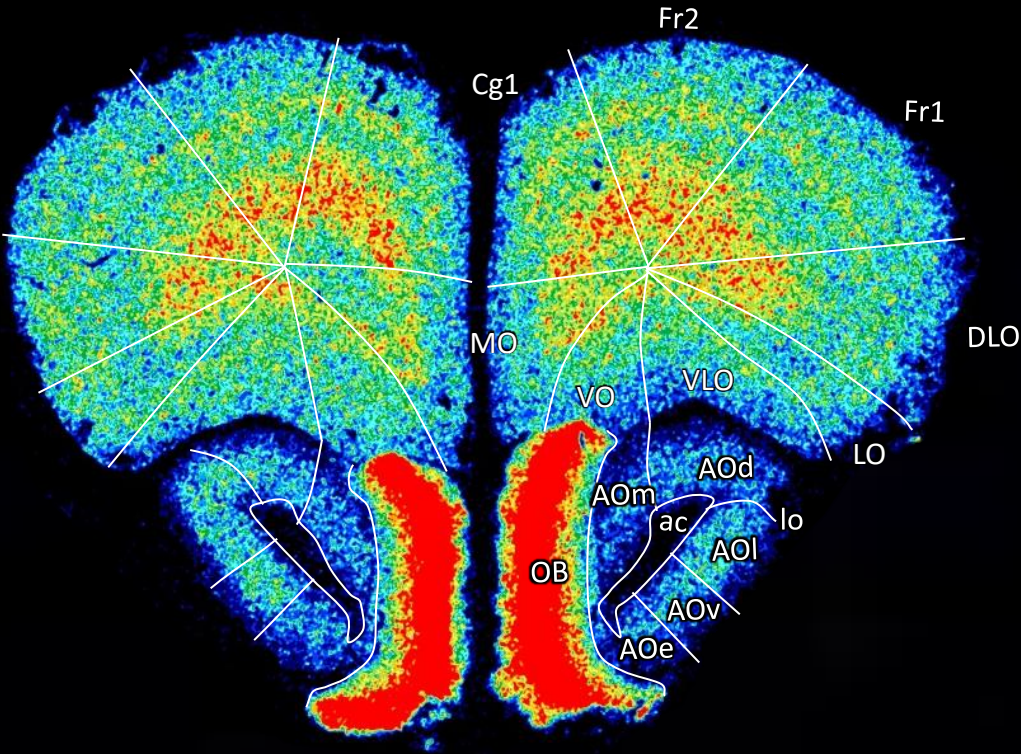
Level c3

Section 313



500µm

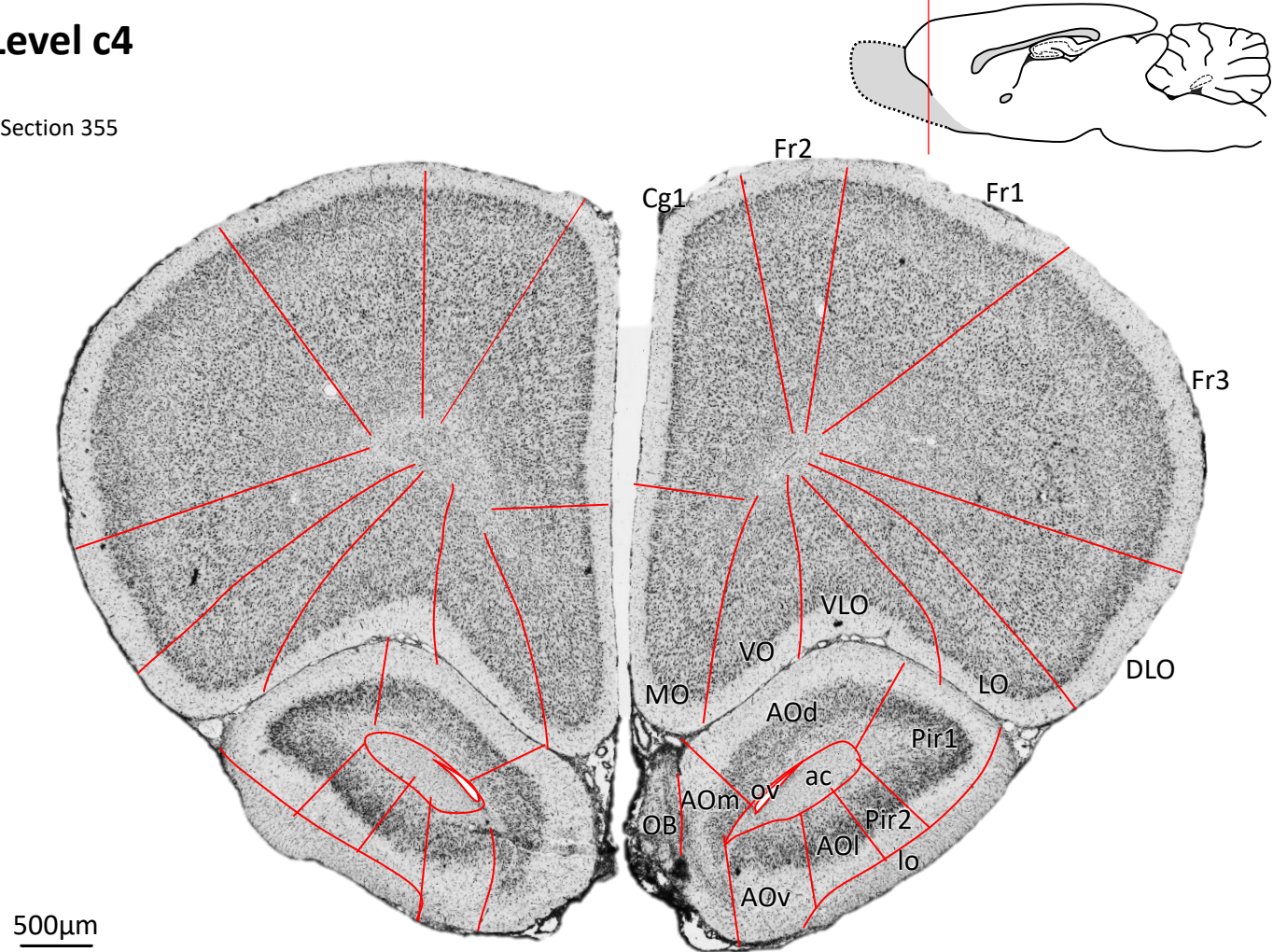
Section 314



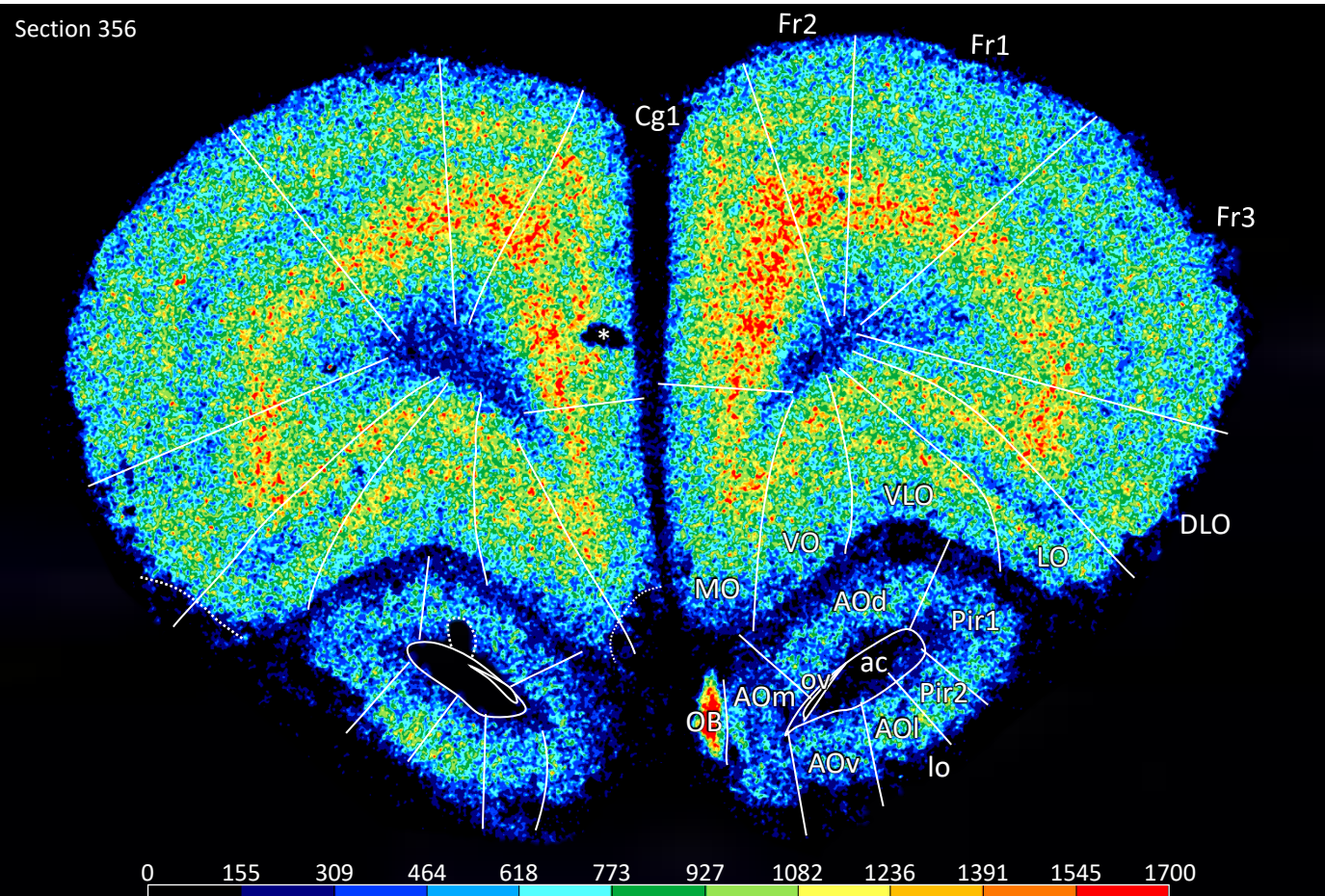
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Level c4

Section 355

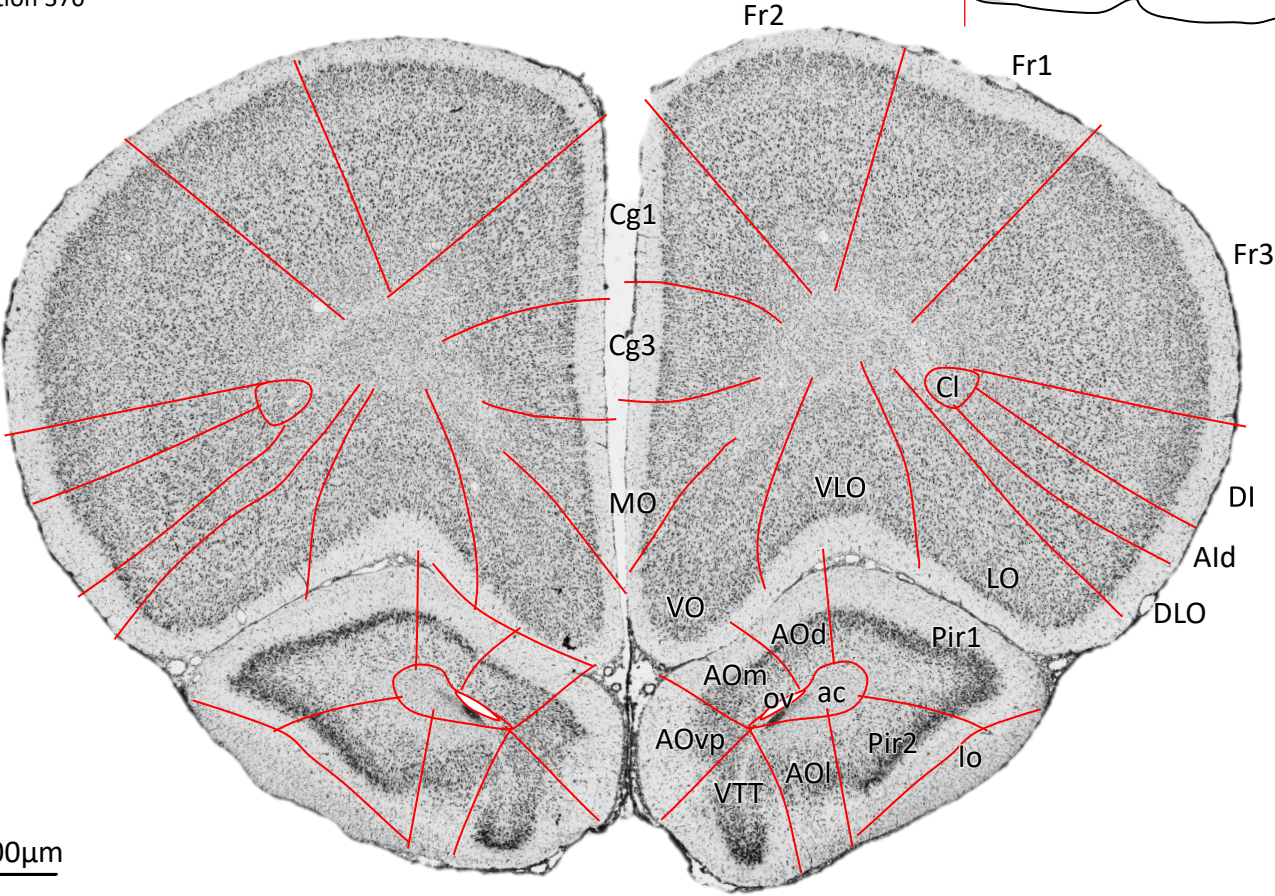
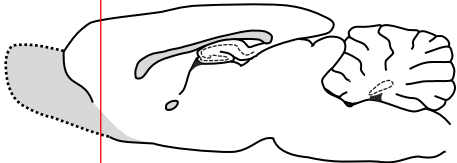


Section 356

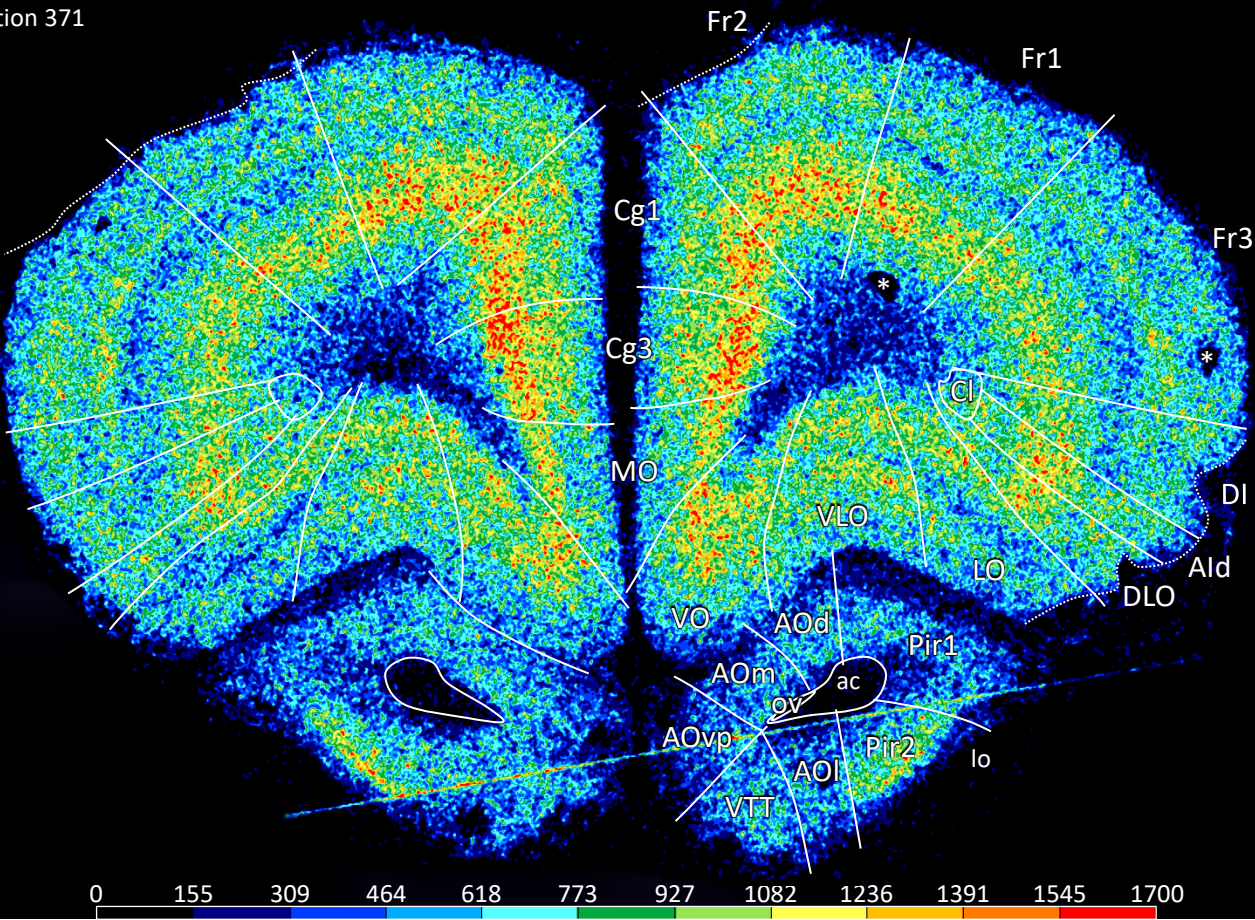


Level c5

Section 370

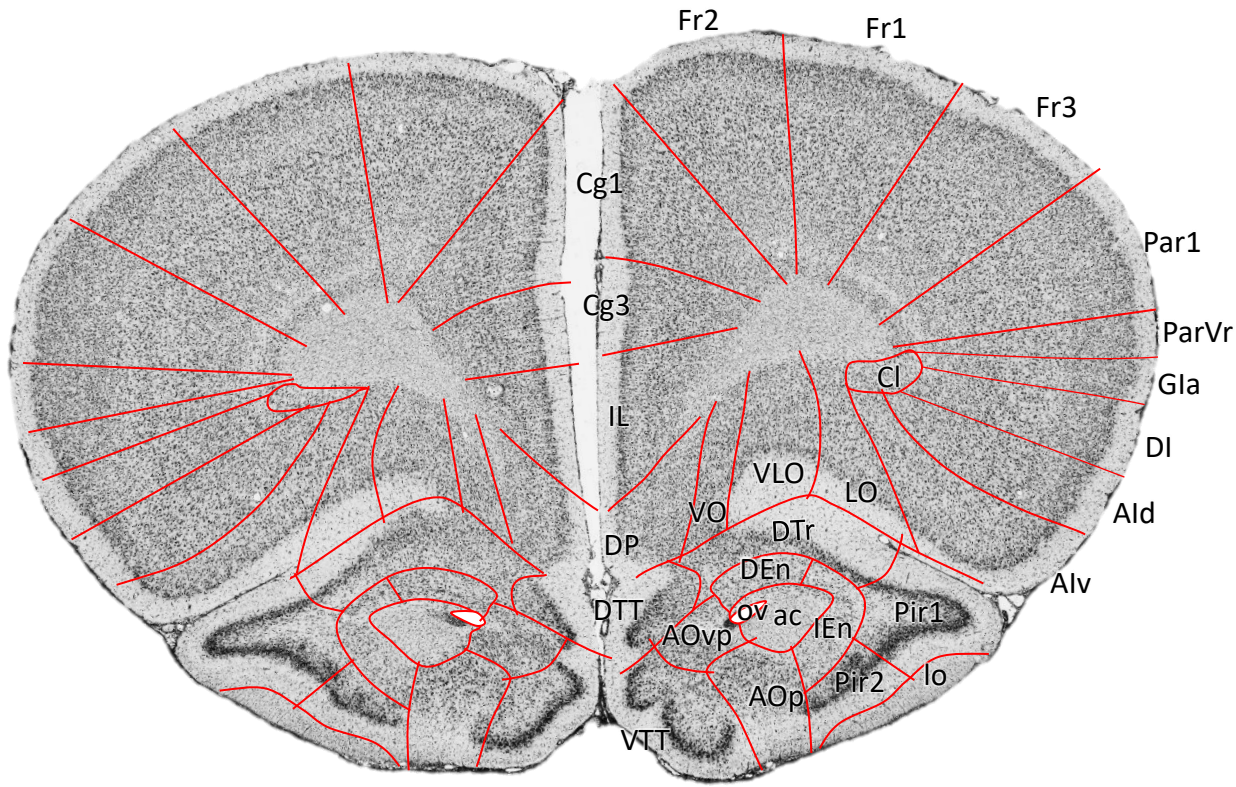
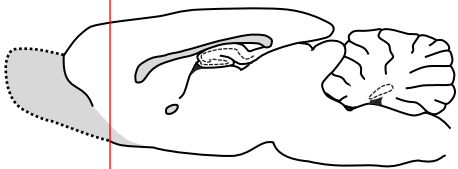


Section 371



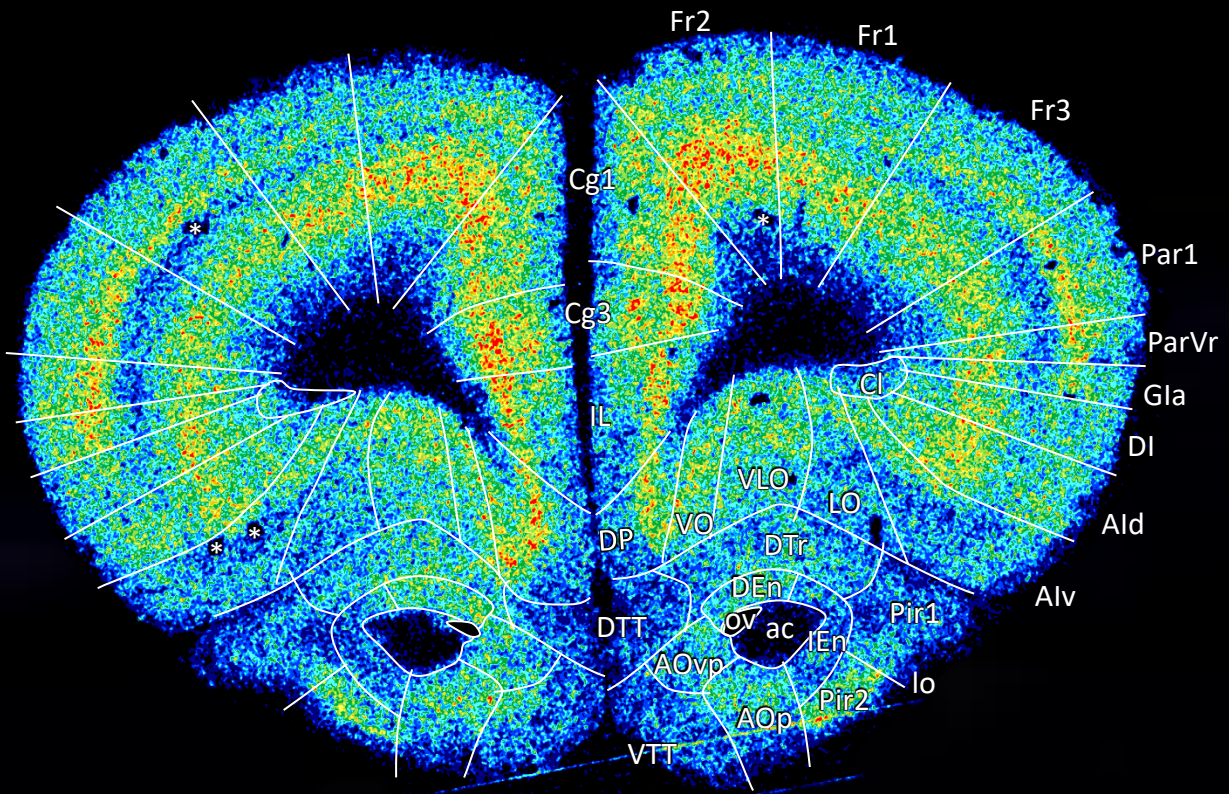
Level c6

Section 394



500µm

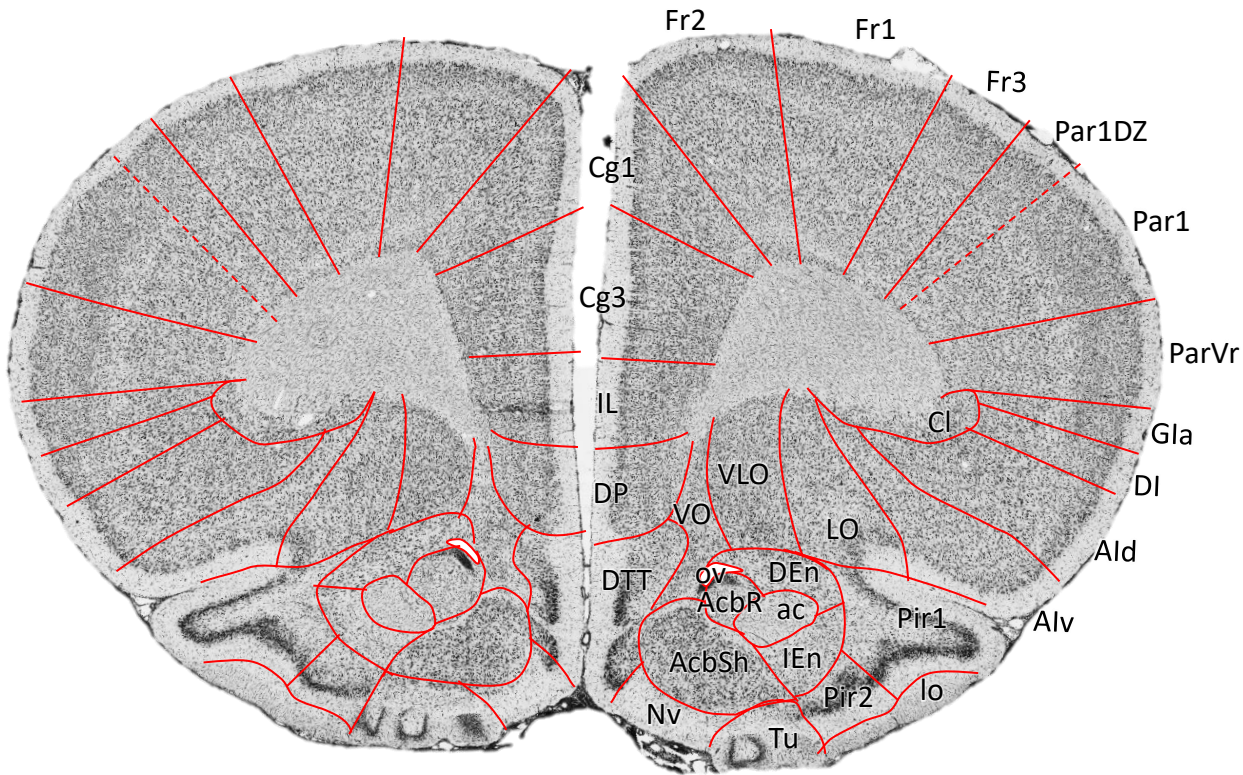
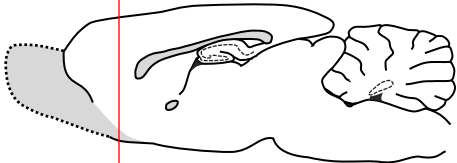
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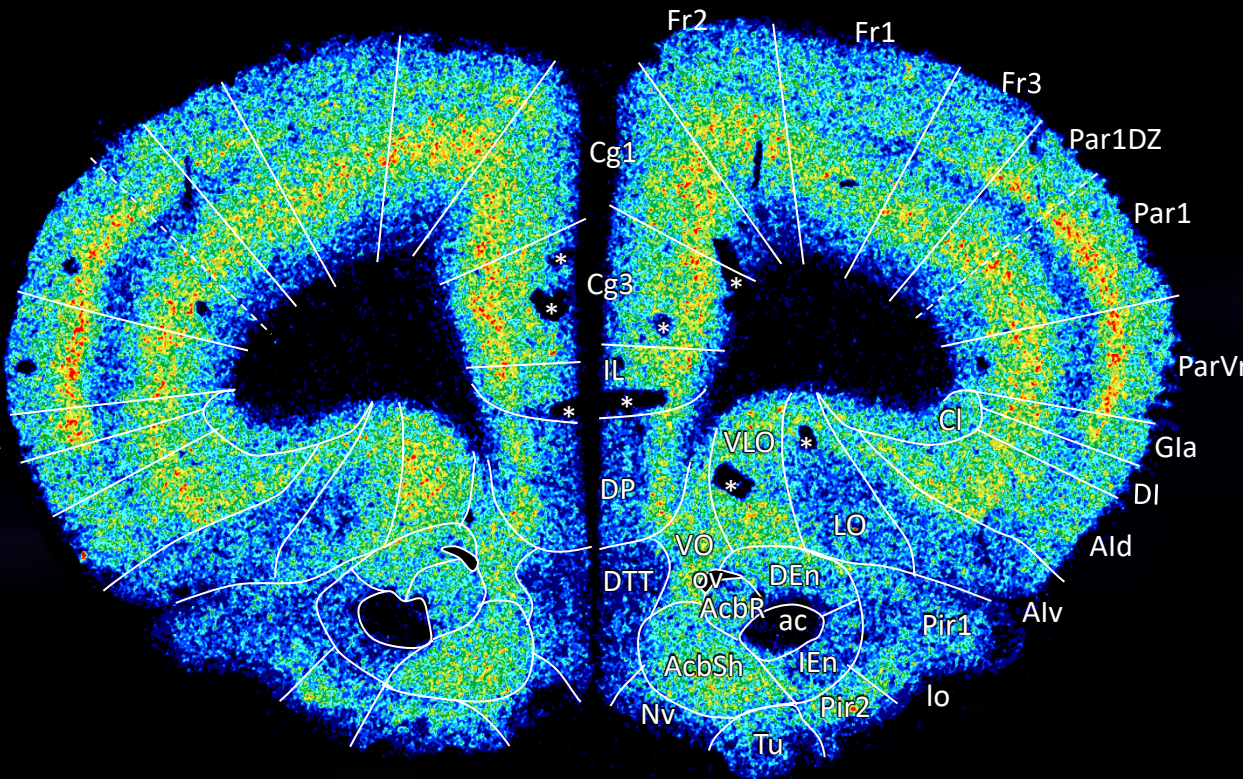
Level c7

Section 418



500µm

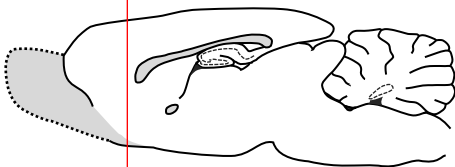
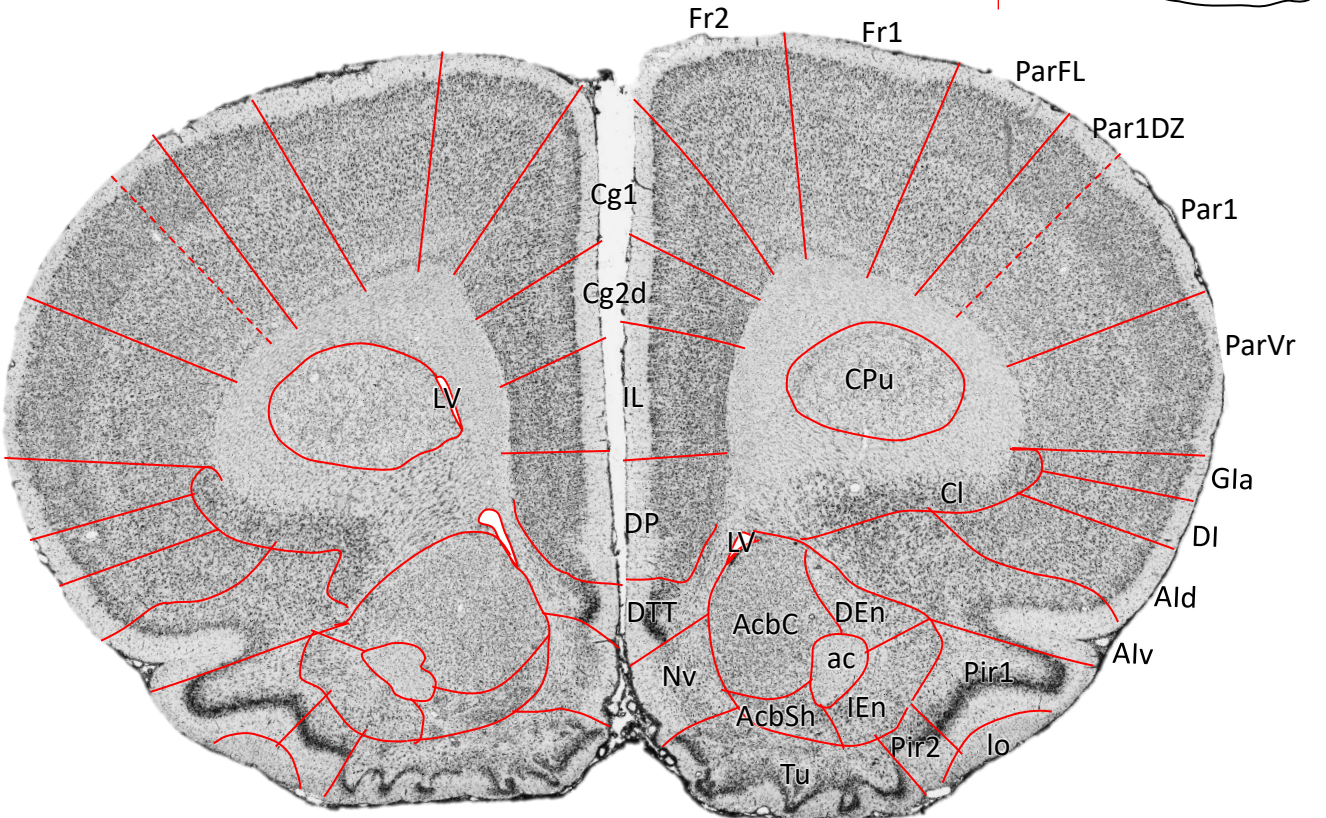
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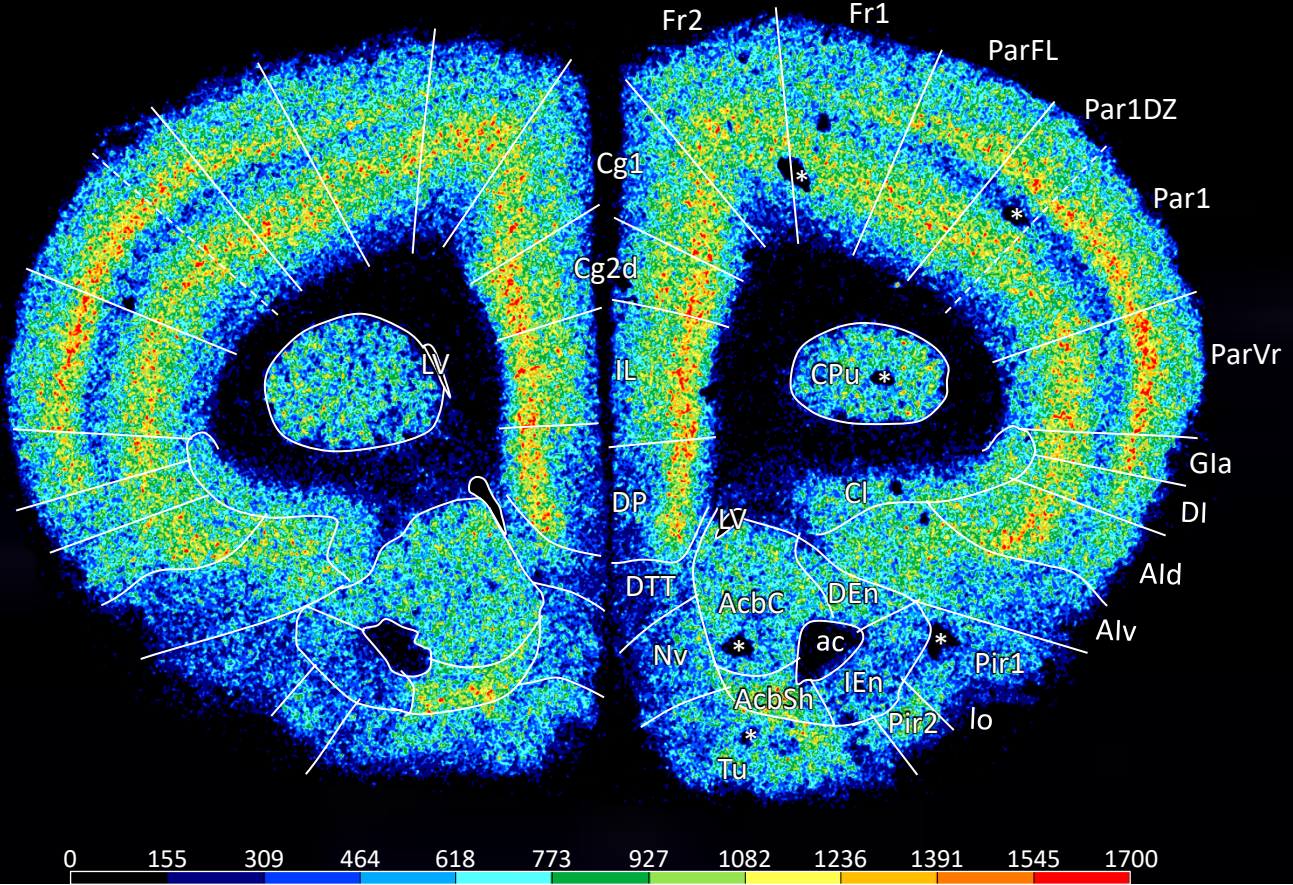
Level c8

Section 442



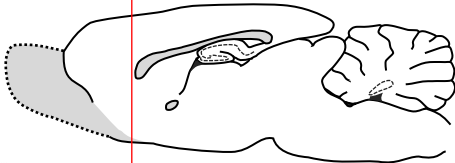
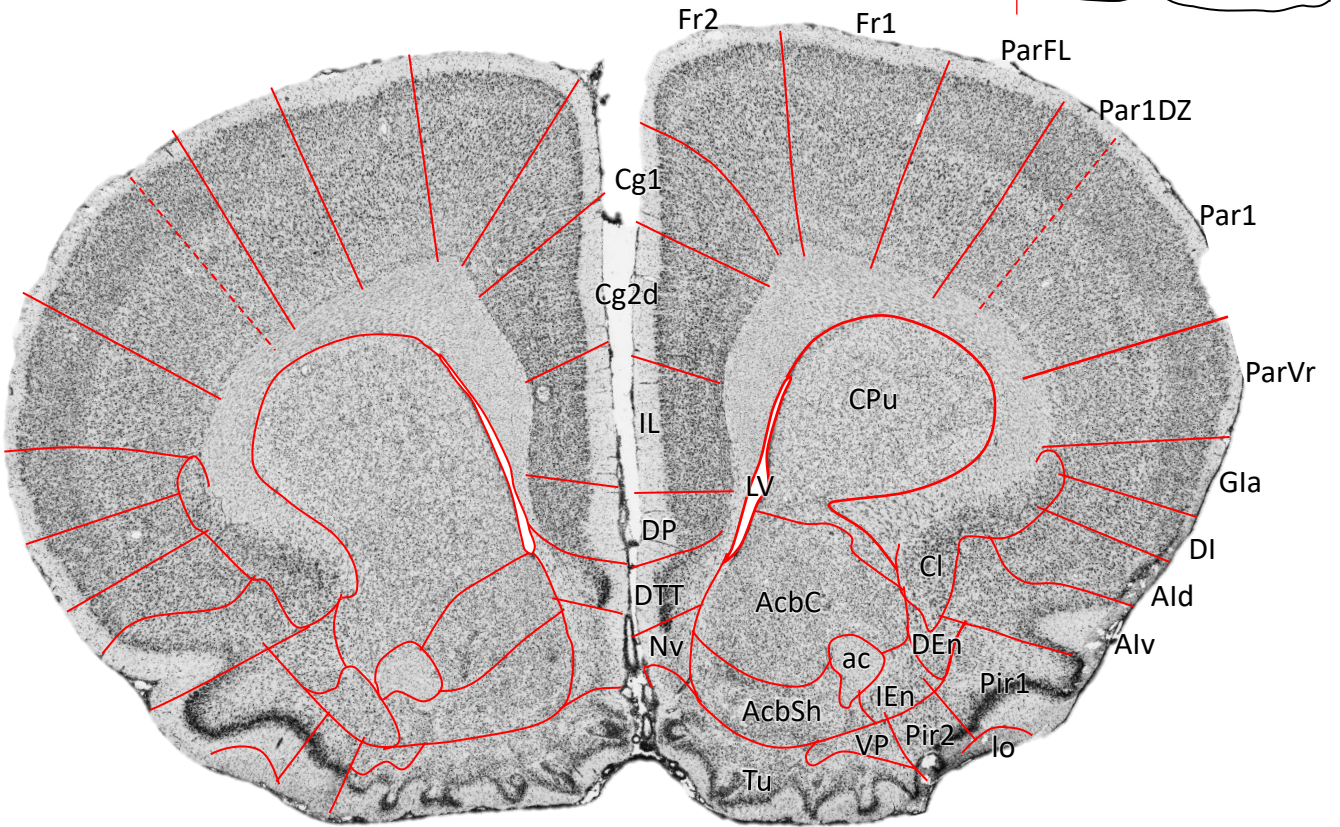
500µm

Section 443



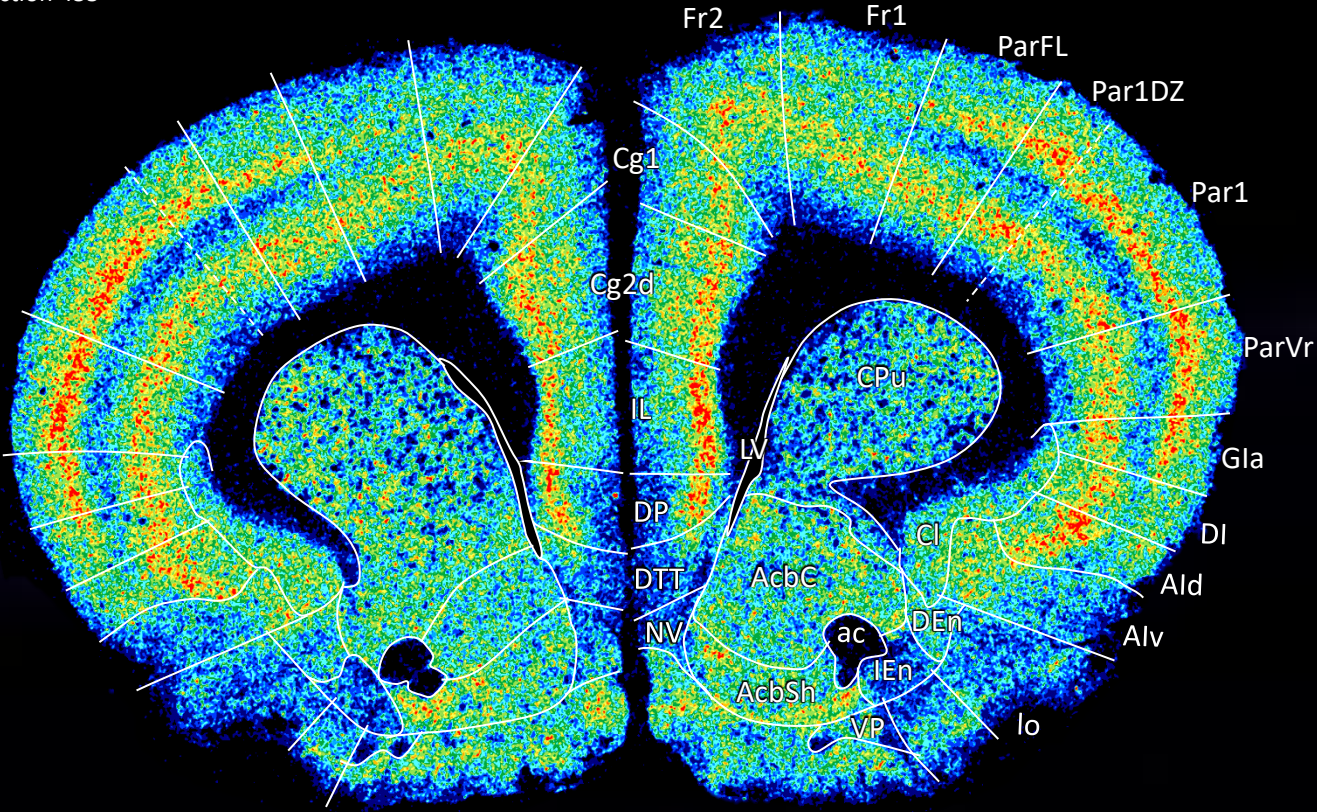
Level c9

Section 454



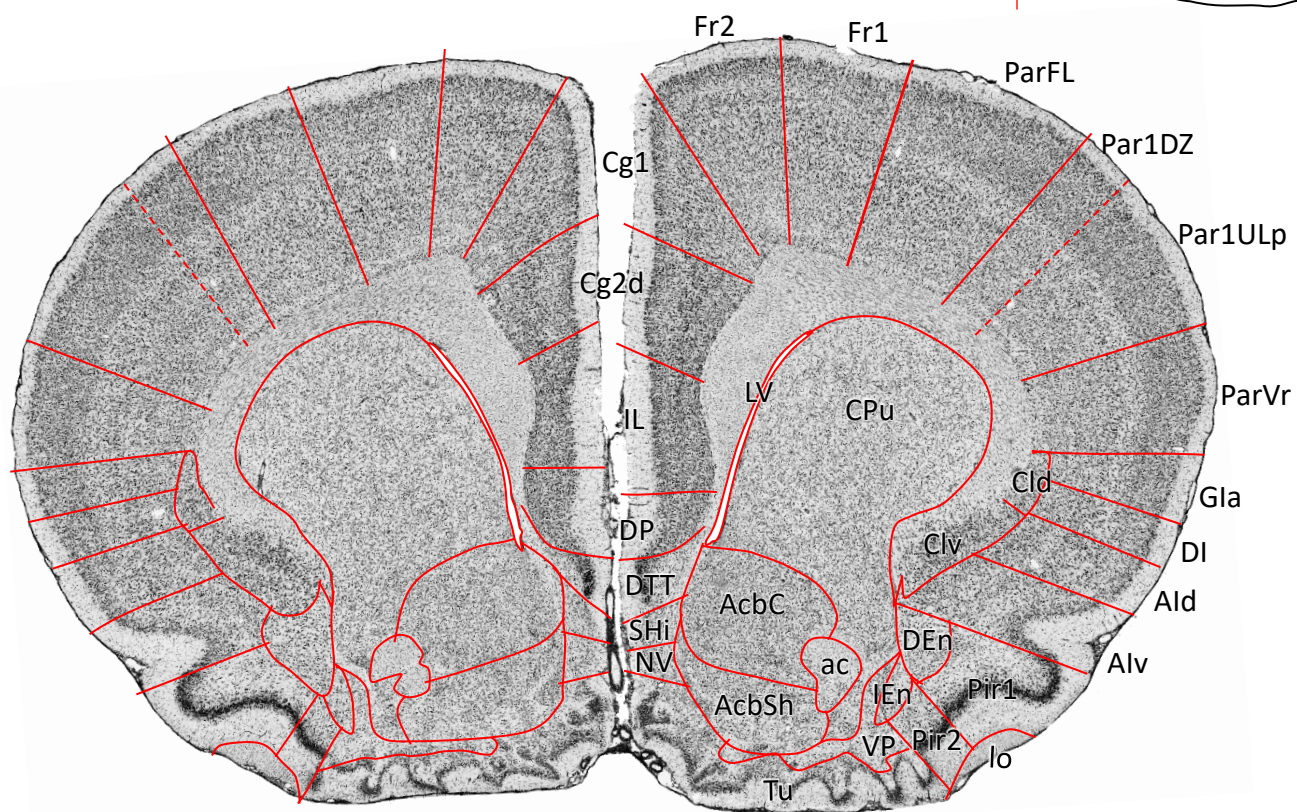
500µm

Section 455

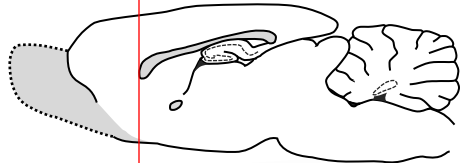


Level c10

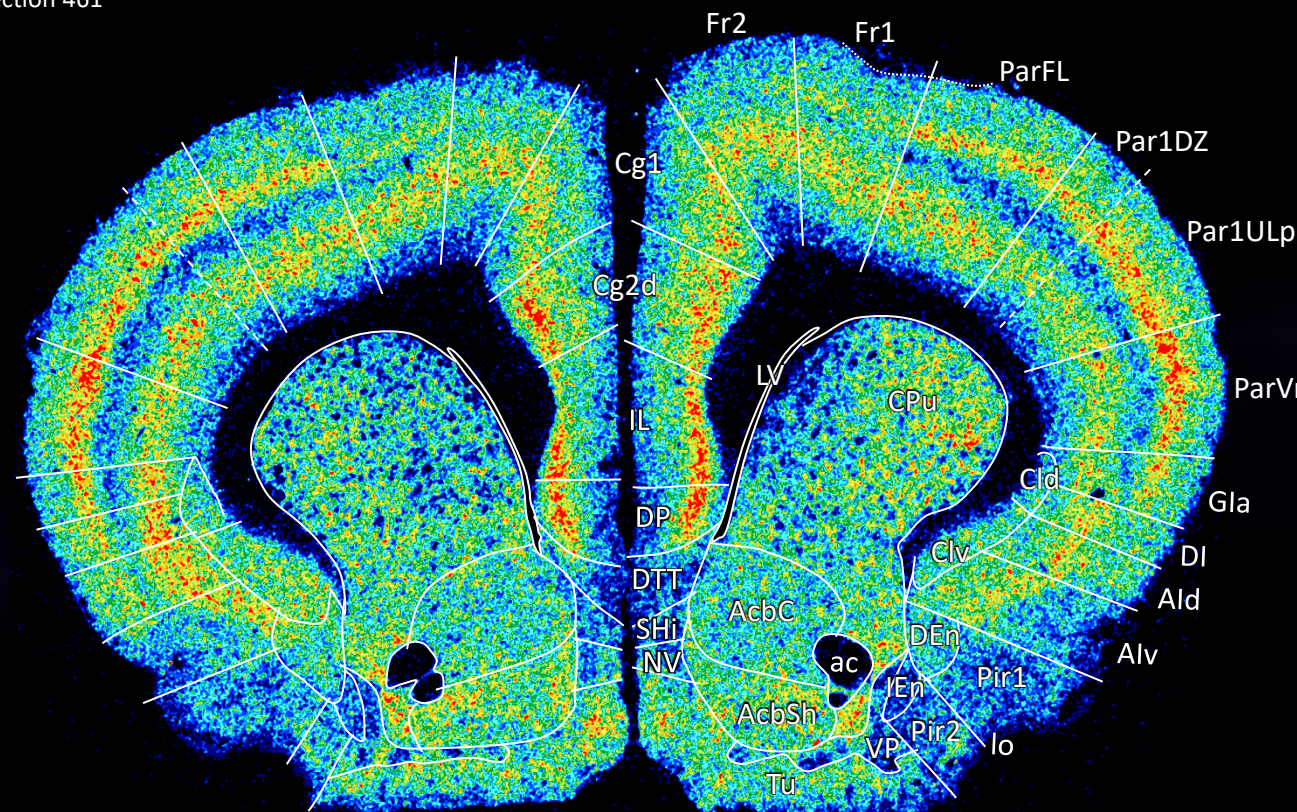
Section 460



500µm



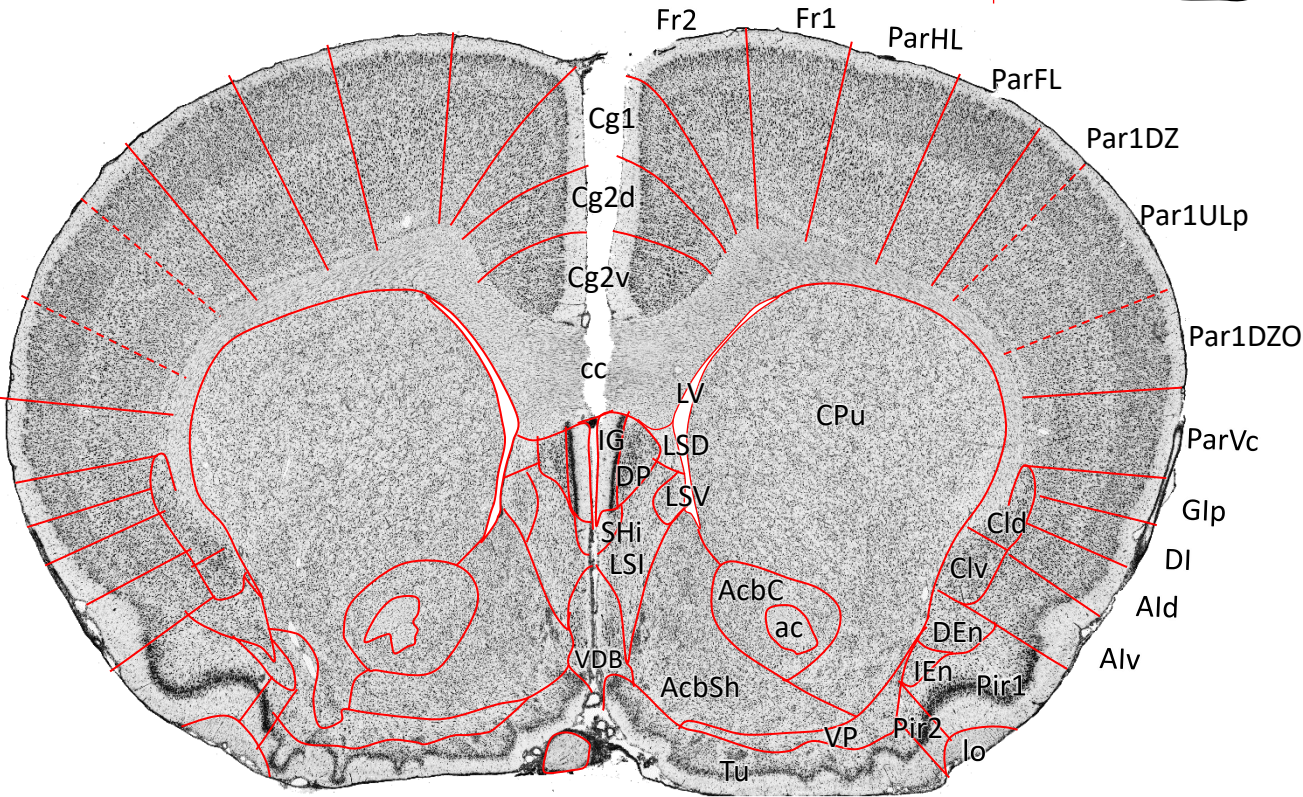
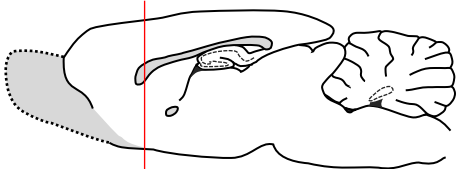
Section 461



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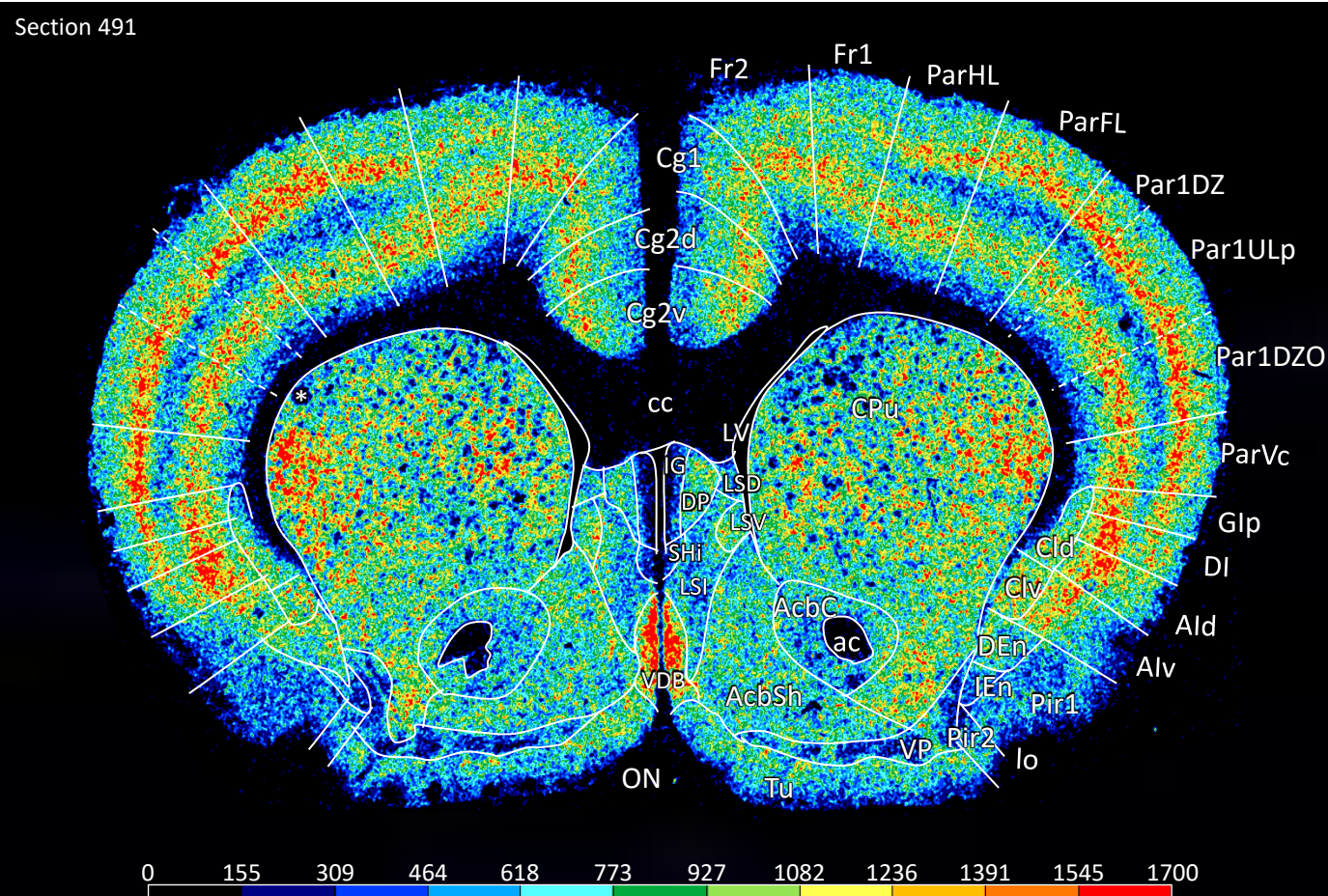
Level c11

Section 490



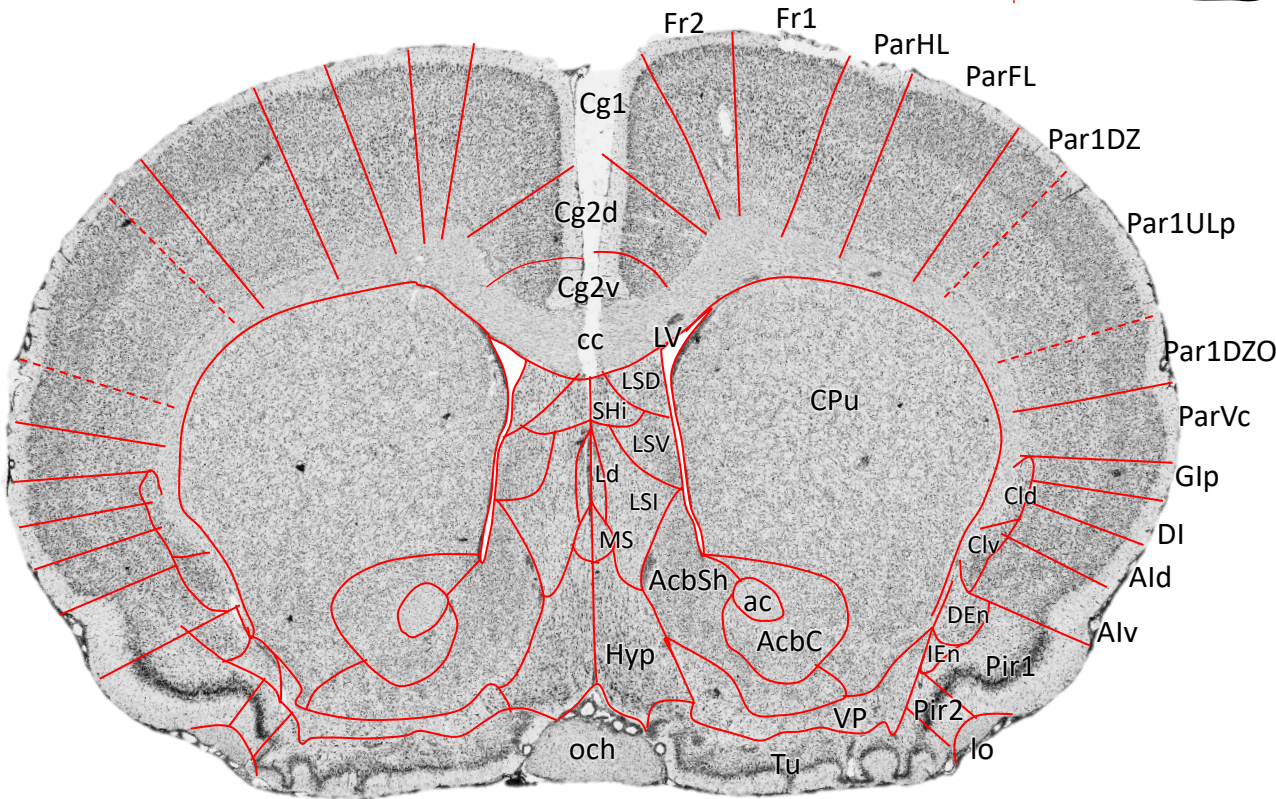
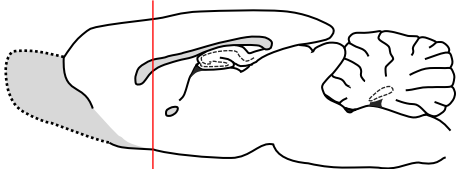
500μm

Section 491



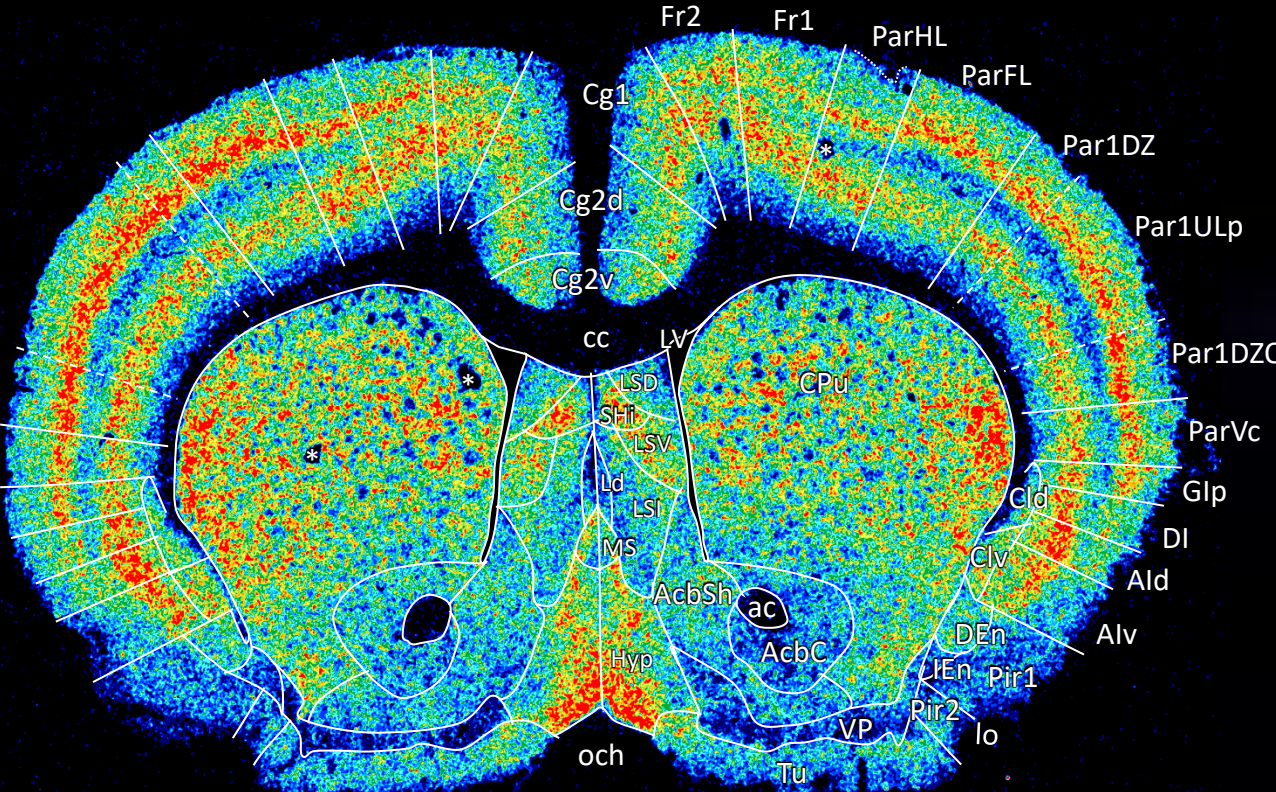
Level c12

Section 514



500μm

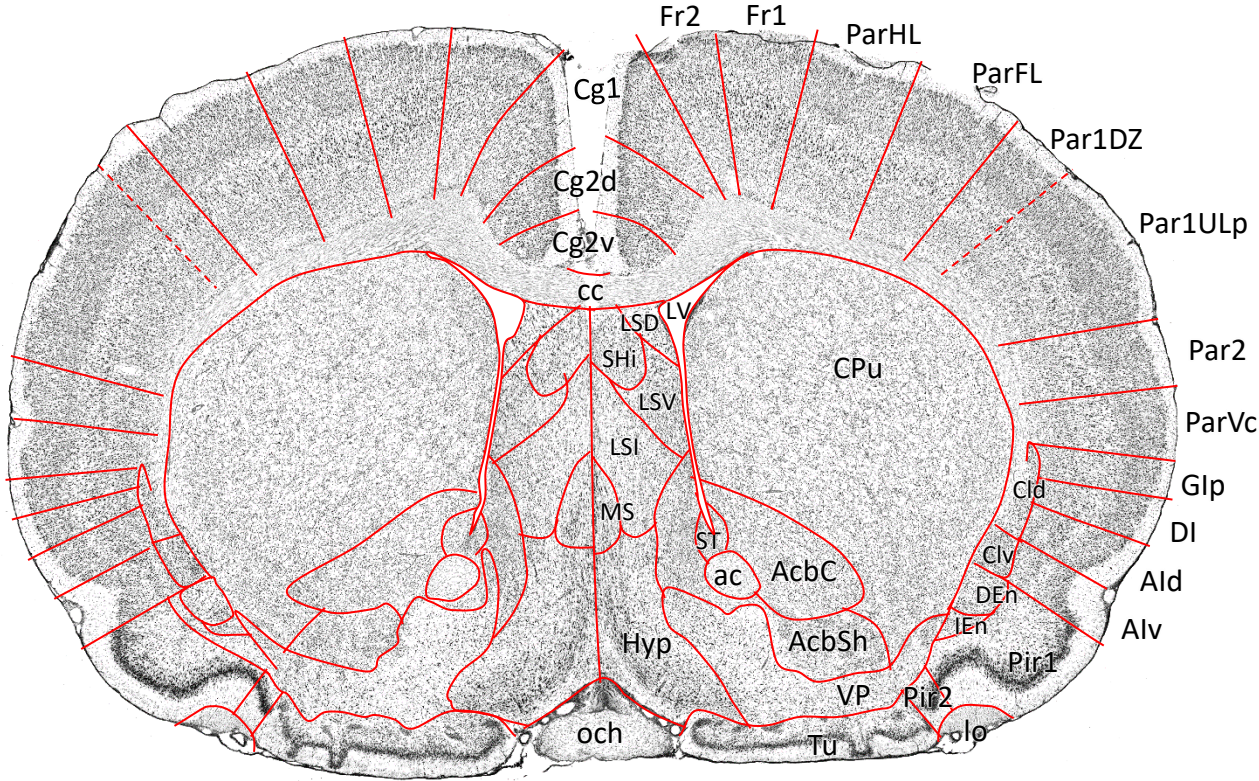
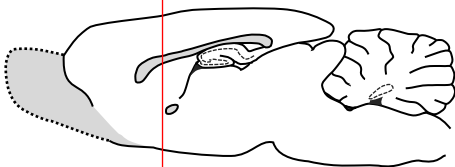
Section 515



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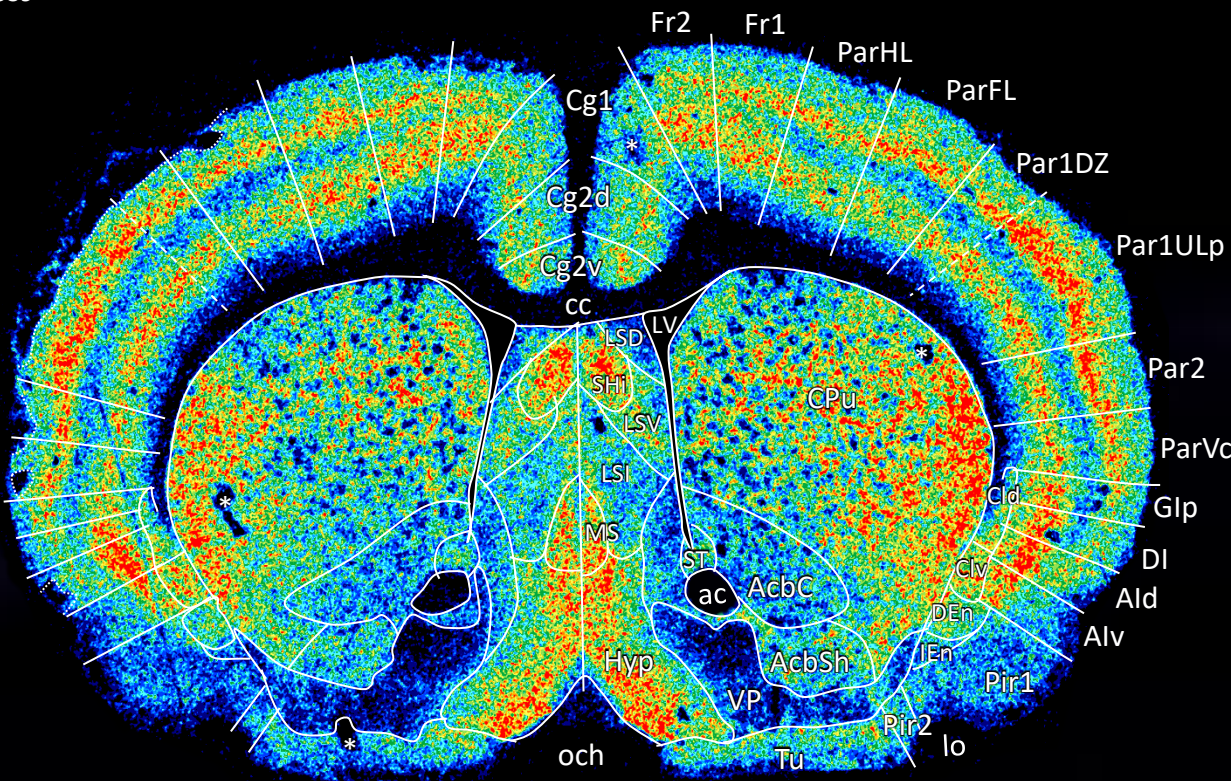
Level c13

Section 538



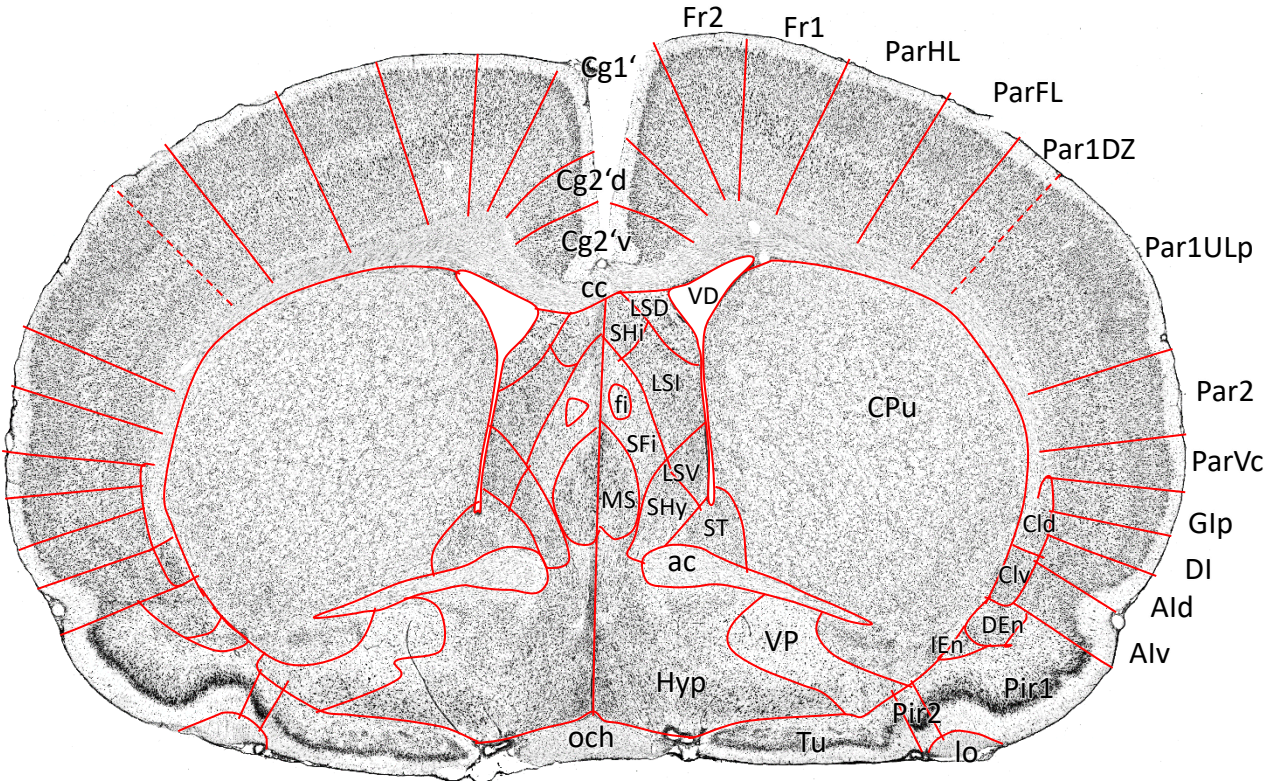
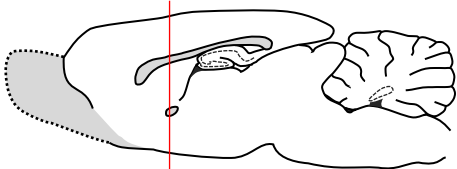
500µm

Section 539



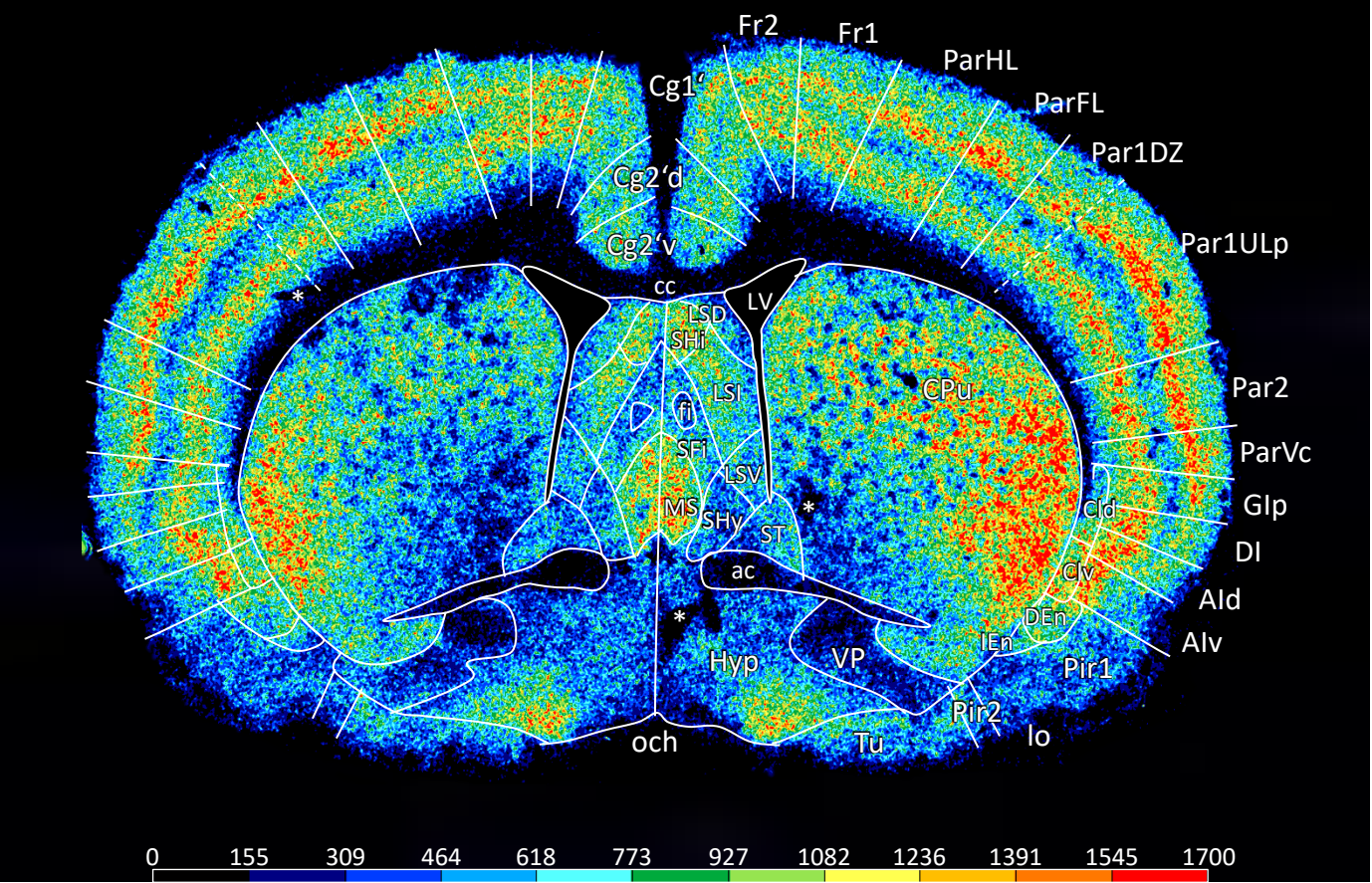
Level c14

Section 562



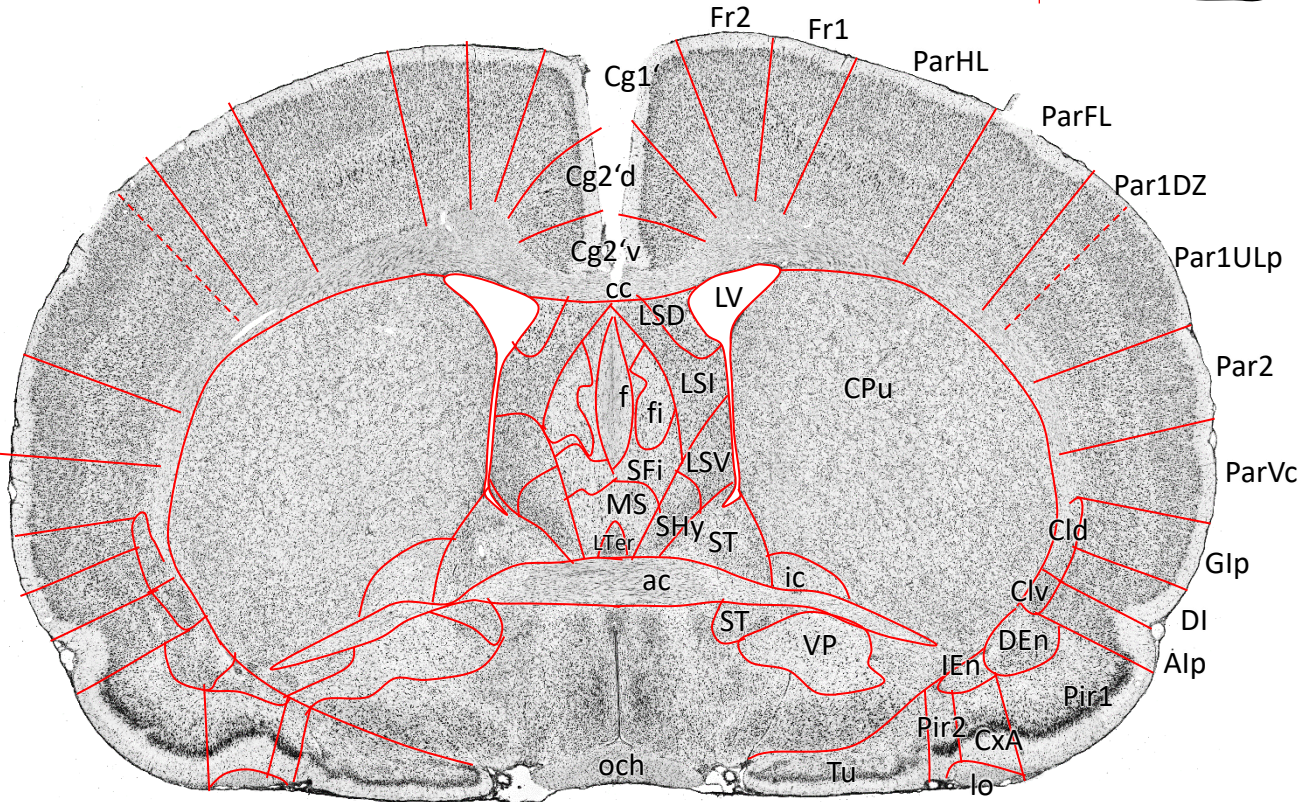
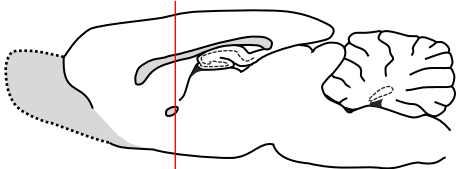
500μm

Section 563



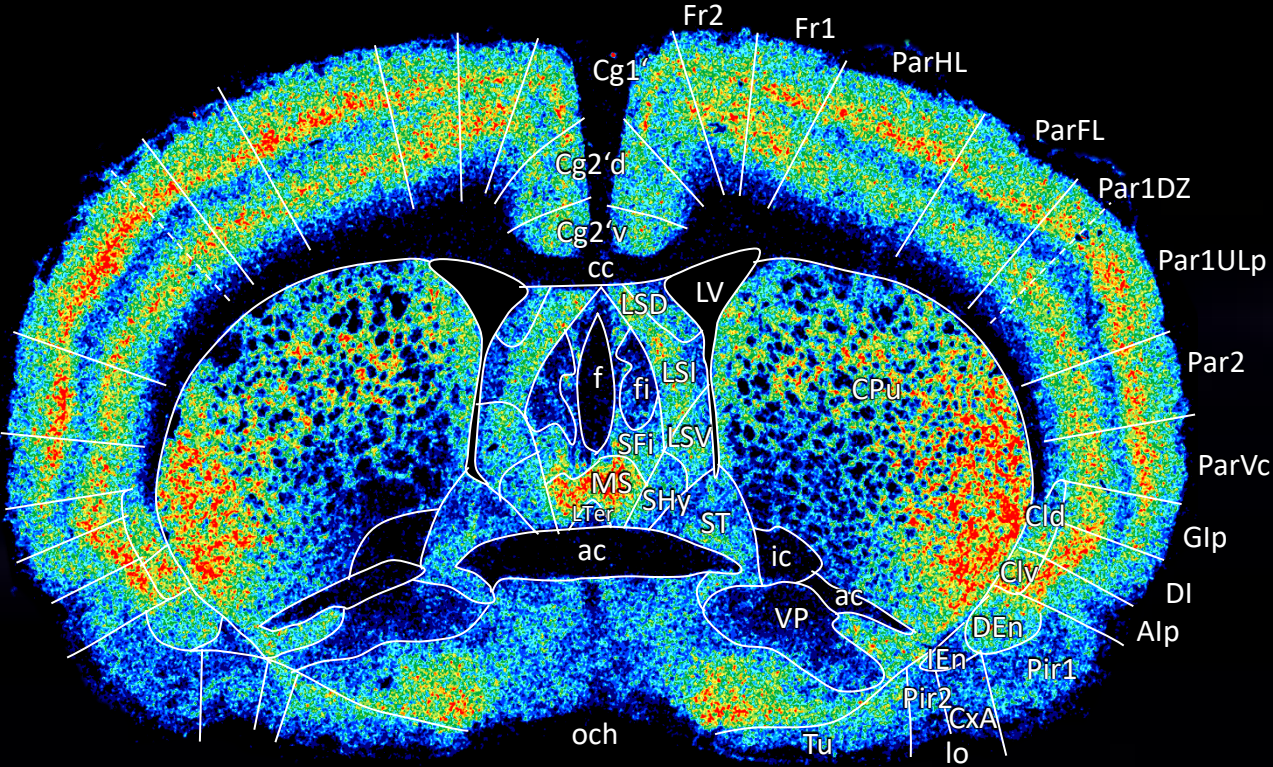
Level c15

Section 574



500µm

Section 575



0 155 309 464 618 773 927 1082 1236 1391 1545 1700

A line drawing of a right hand, palm facing left. A vertical red line is drawn through the center of the hand, passing between the thumb and the index finger. The thumb is on the left side of the line, and the other four fingers are on the right side. The line is positioned to represent the midline of the hand, separating the thumb from the other digits.

[illegible]

500μm

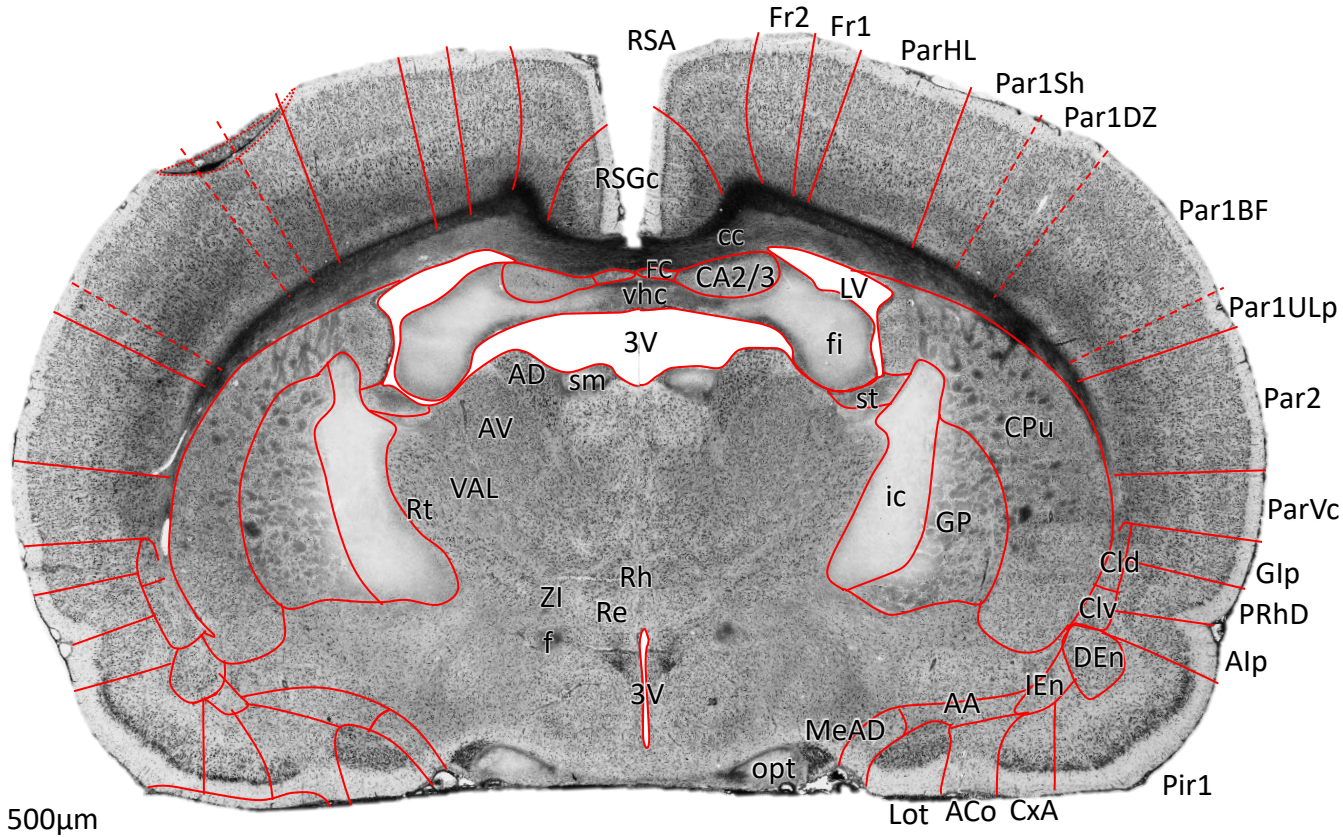
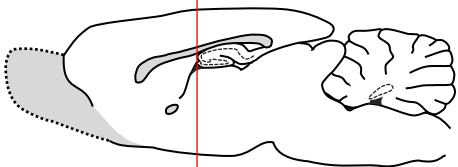
Figure 1 displays a coronal section of a mouse brain, illustrating the distribution of the 12-O-tetradecanoylphorbol-13-acetate (TPA) response element-1 (TRE-1) mRNA. The image is a color-coded map where blue represents low expression and red/yellow represents high expression. Anatomical structures are outlined in white and labeled with abbreviations. A color scale bar at the bottom ranges from 0 to 1700.

Key anatomical structures labeled include:

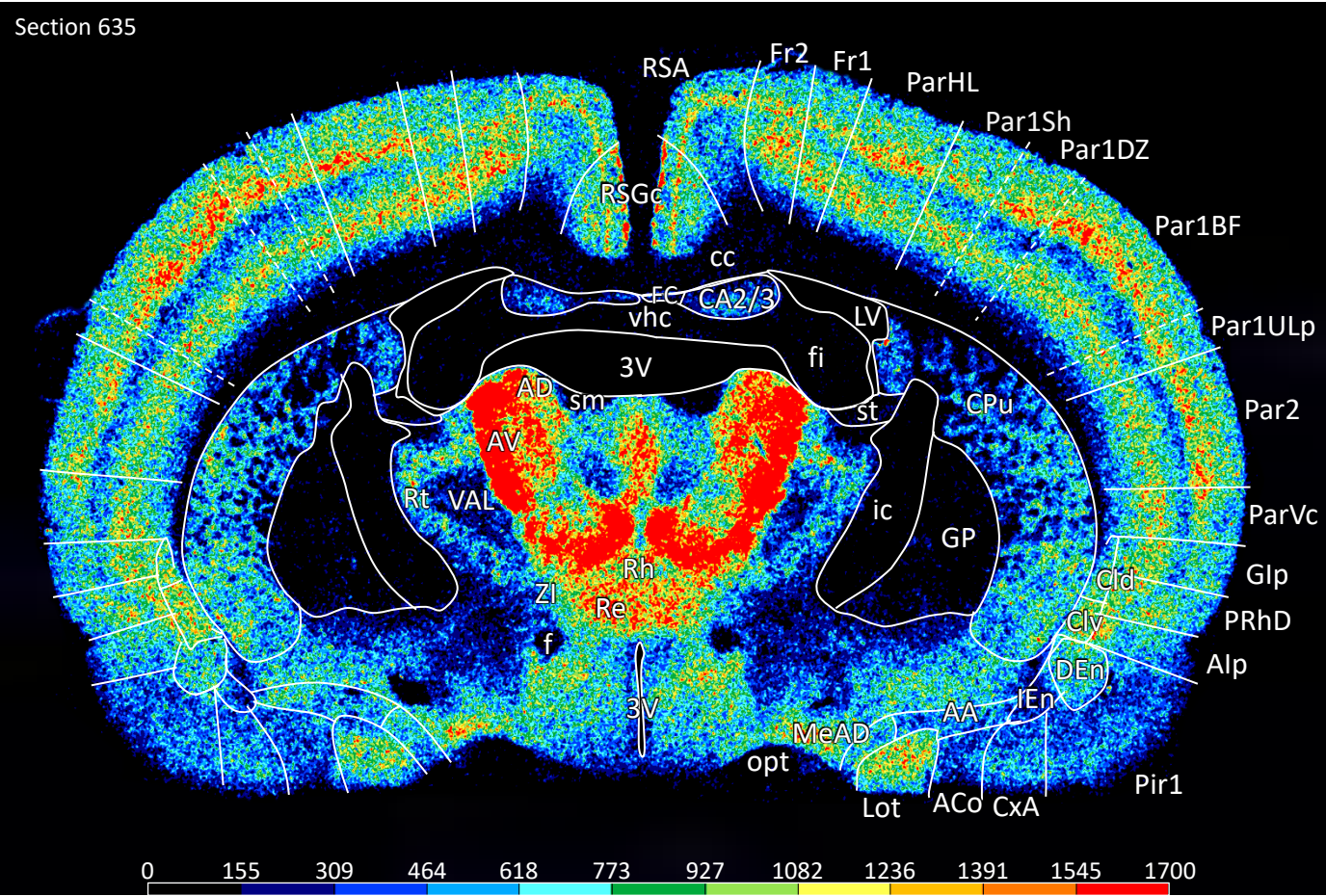
- Cerebral Cortex:** Cg1', Fr2, Fr1, ParHL, ParFL, Par1DZ, Par1BF, Par1ULp, Par2, ParVc, Glp, DI, Alp, Pir1, Pir2, CxA, lo, Tu.
- Subcortical Structures:** Cg2'd, Cg2'v, CC, df, LSD, LV, TS, SFi, fi, CPu, GP, ST, ic, sm, f, 3V, och, VP, rac, DEn, IEn, Pir1, Pir2, CxA, lo, Tu.
- Other Labels:** Cg1', Fr2, Fr1, ParHL, ParFL, Par1DZ, Par1BF, Par1ULp, Par2, ParVc, Glp, DI, Alp, Pir1, Pir2, CxA, lo, Tu.

Level c17

Section 634

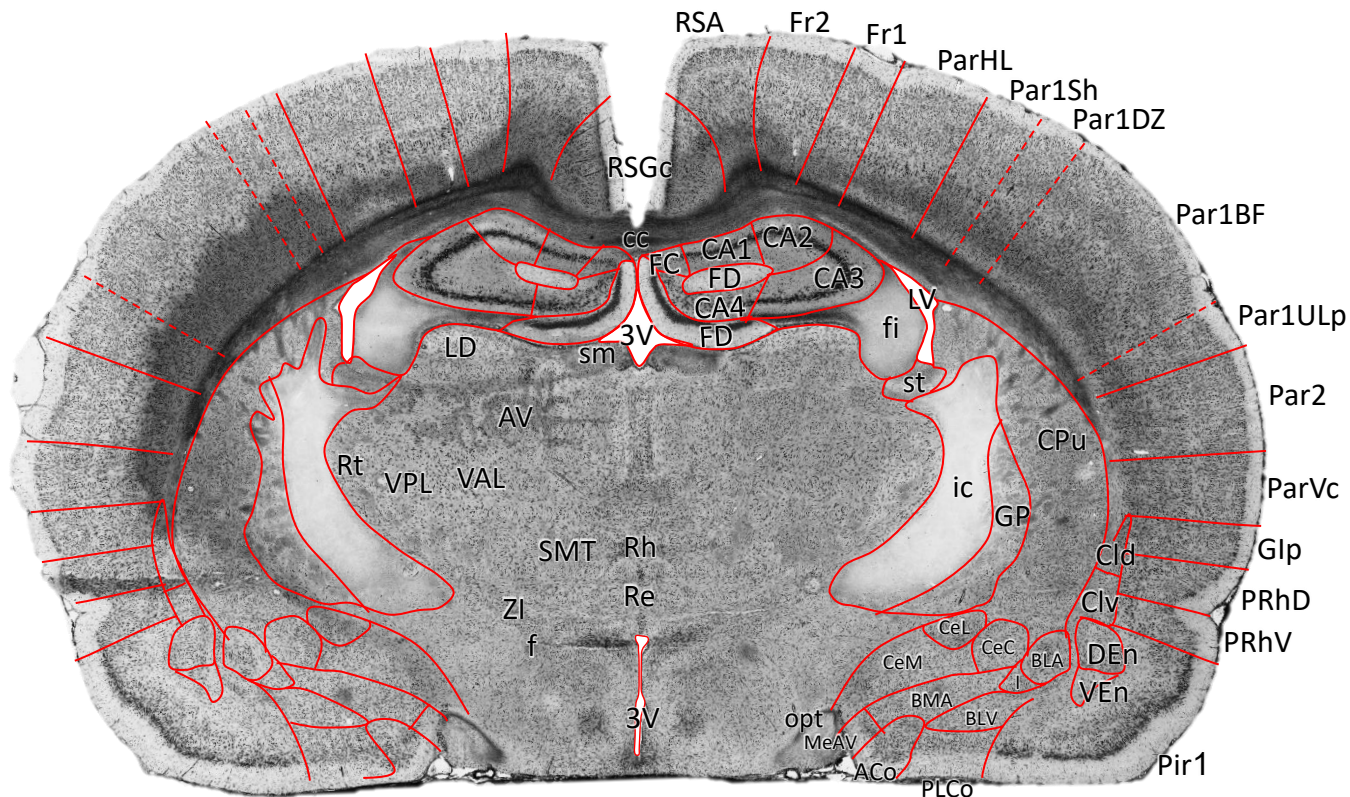
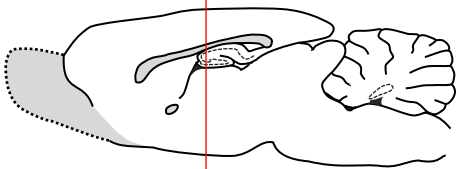


Section 635

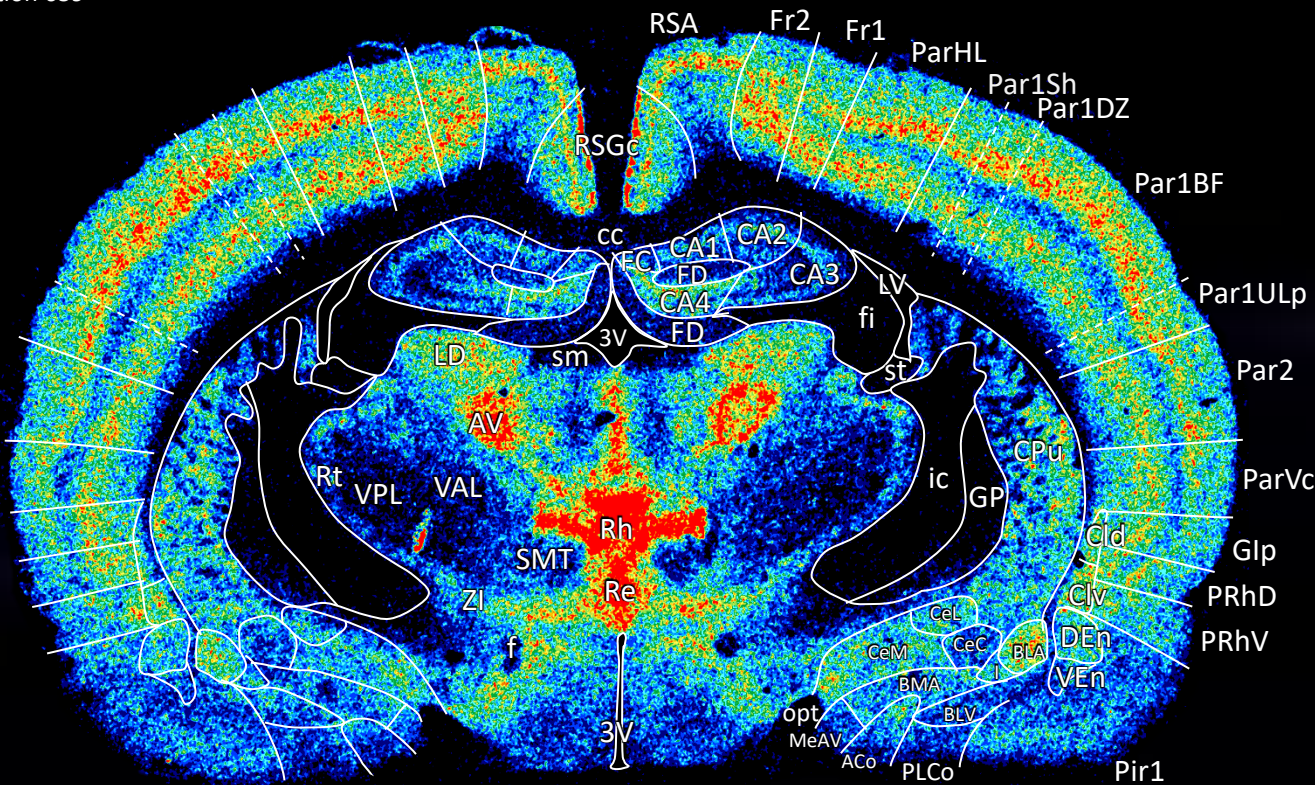


Level c18

Section 658

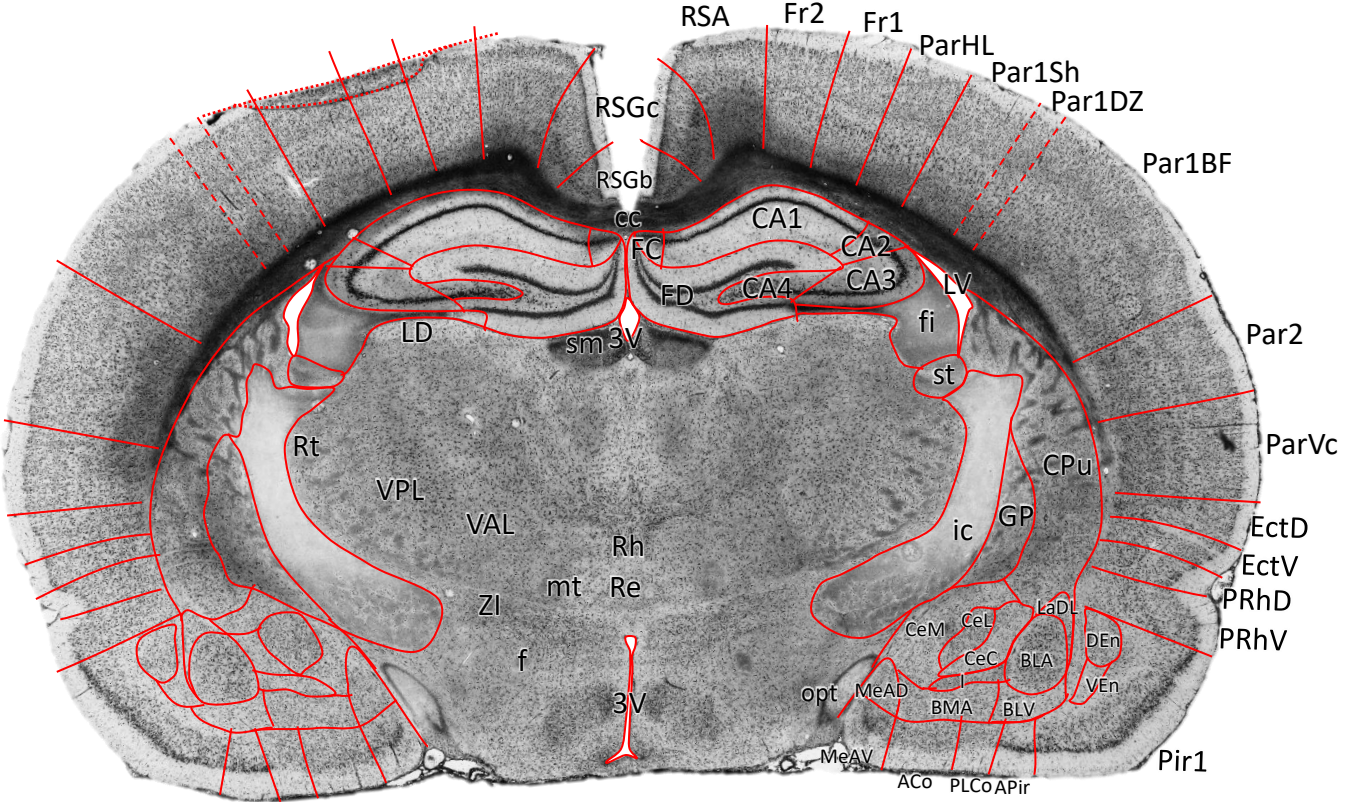
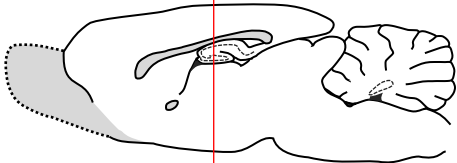


Section 659

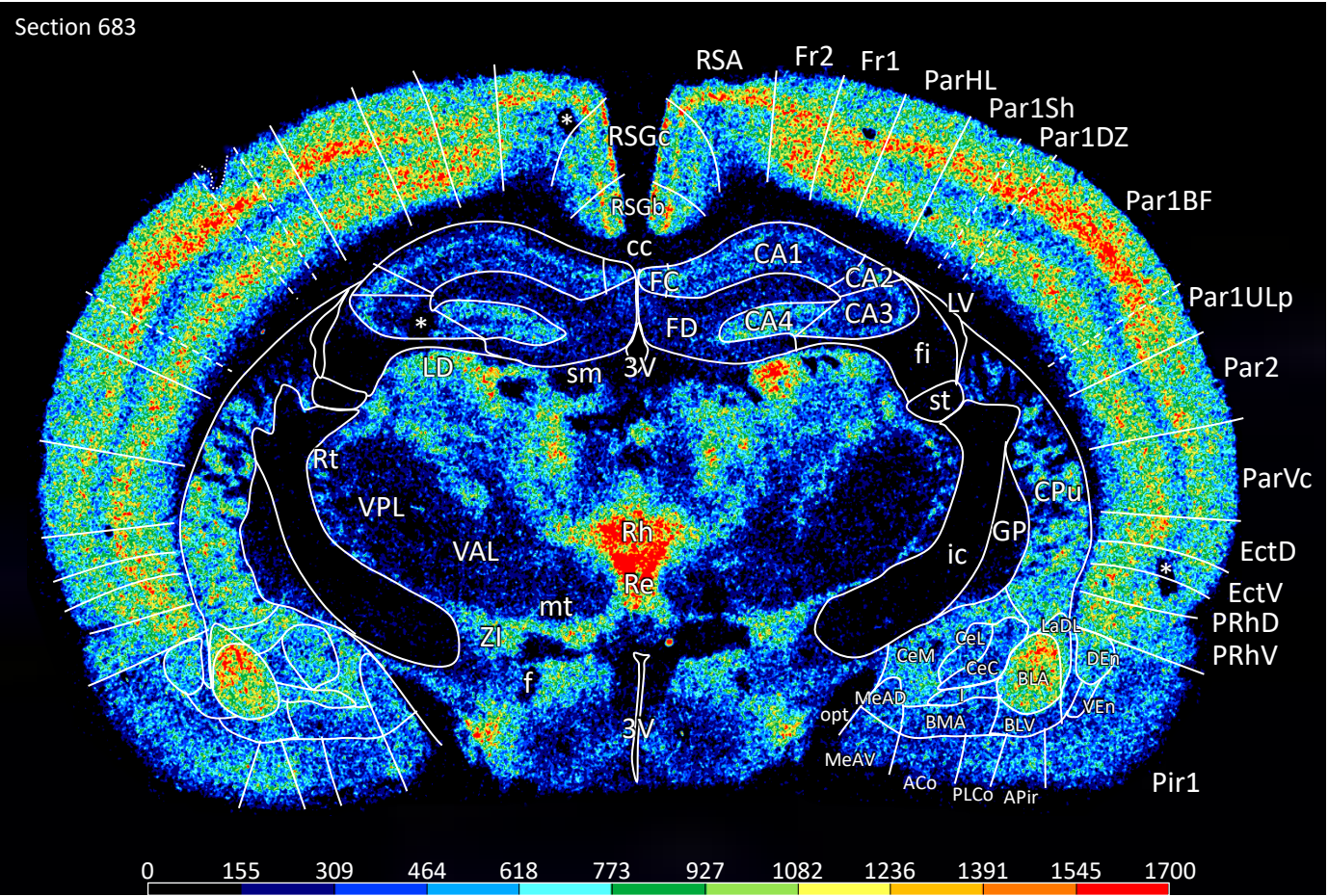


Level c19

Section 682

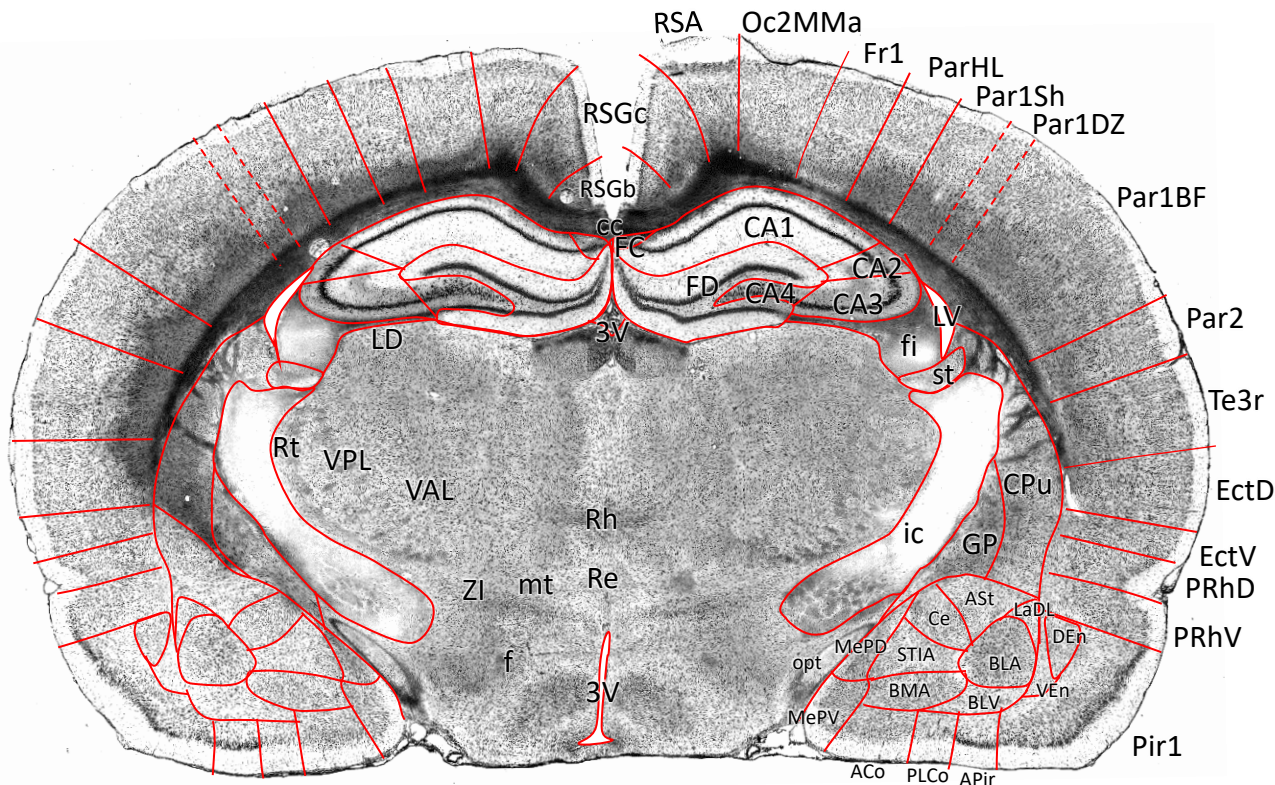
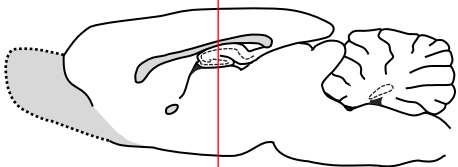


Section 683



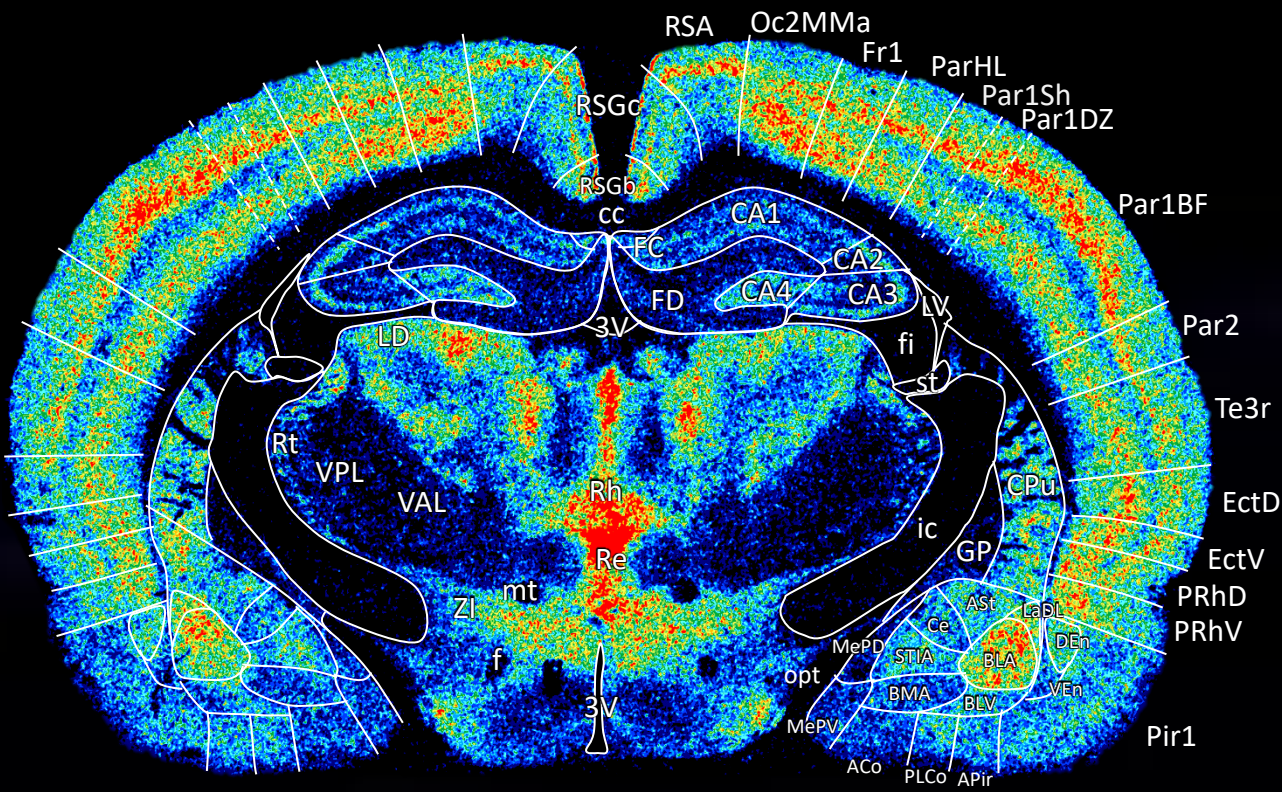
Level c20

Section 694



500µm

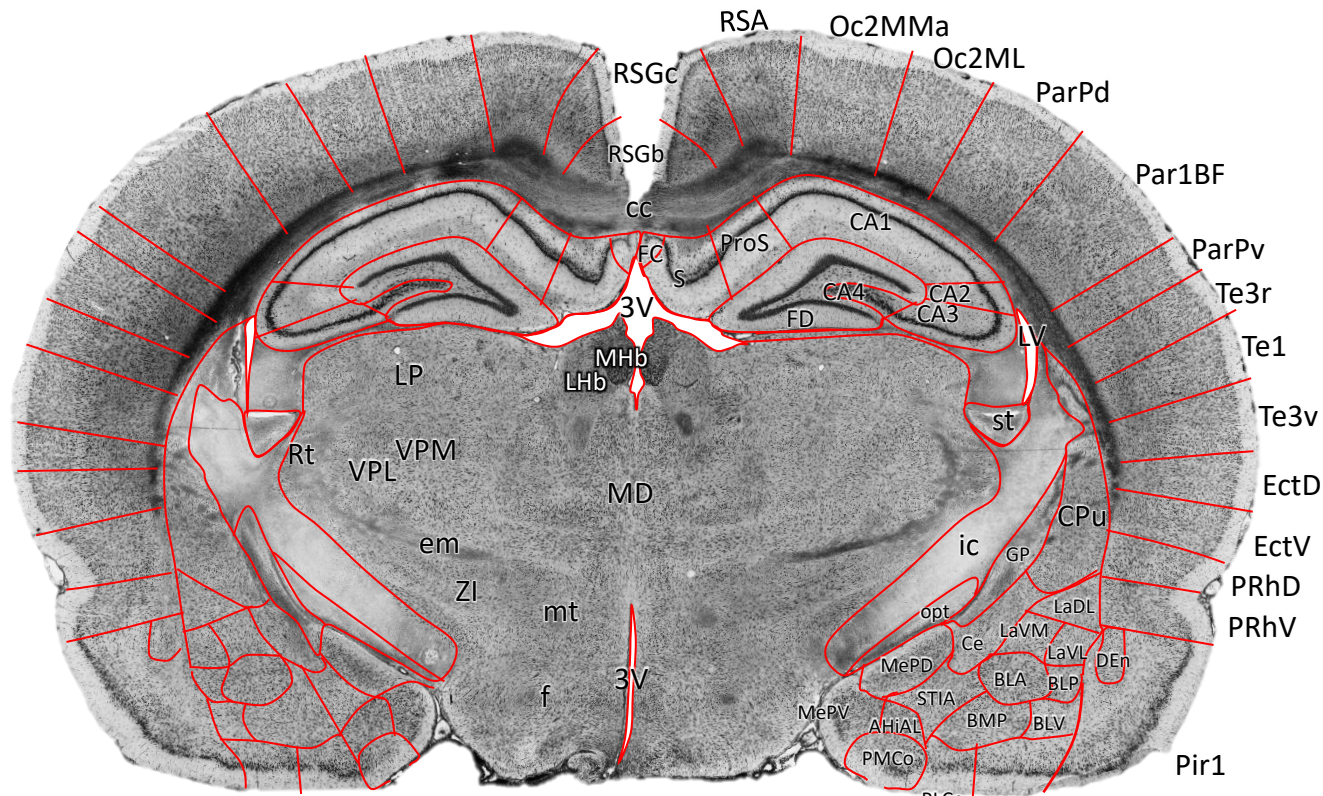
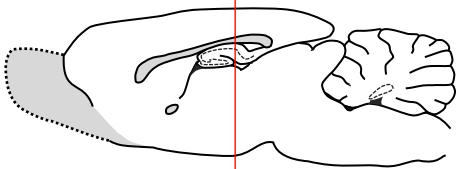
Section 695



500µm

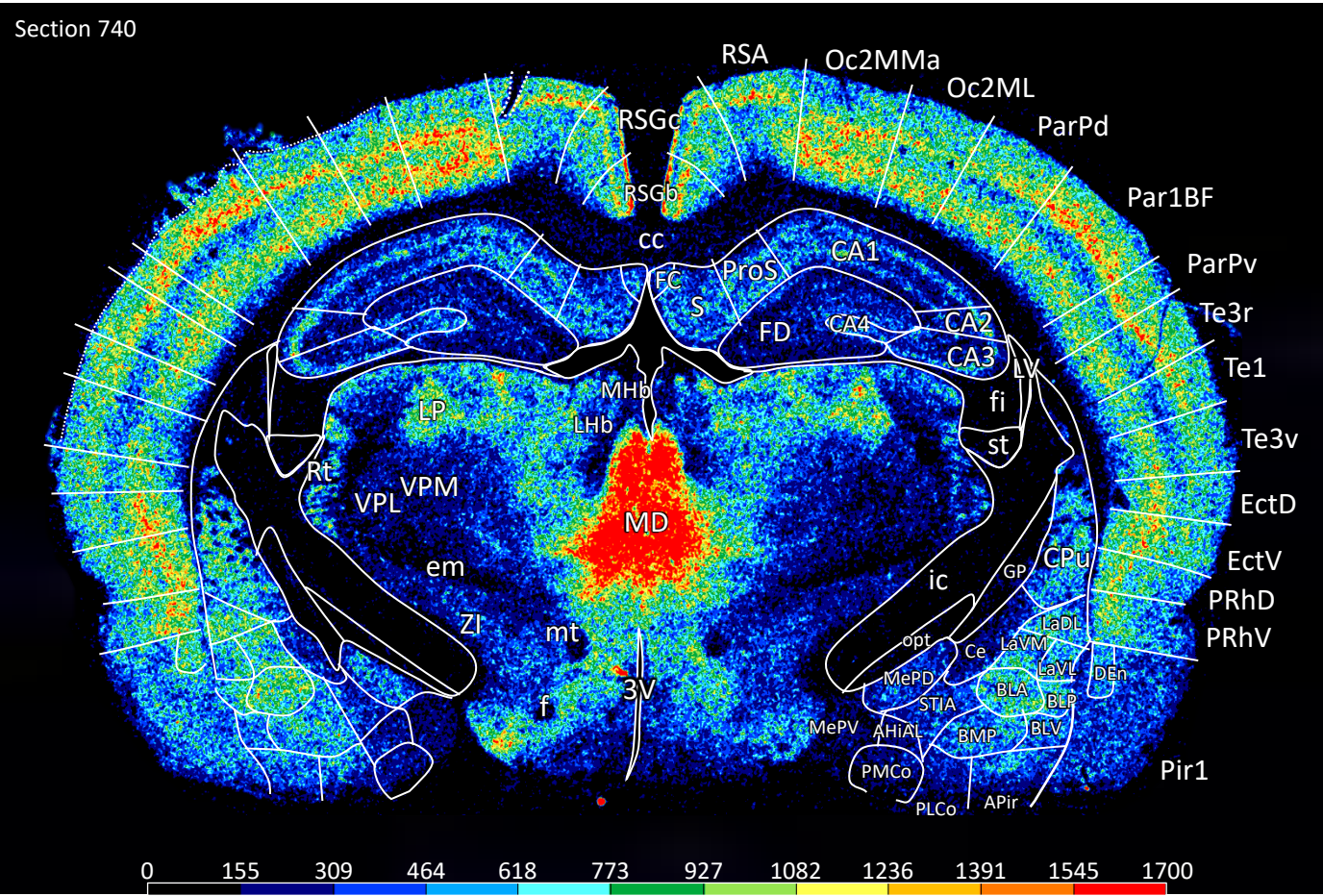
Level c22

Section 739



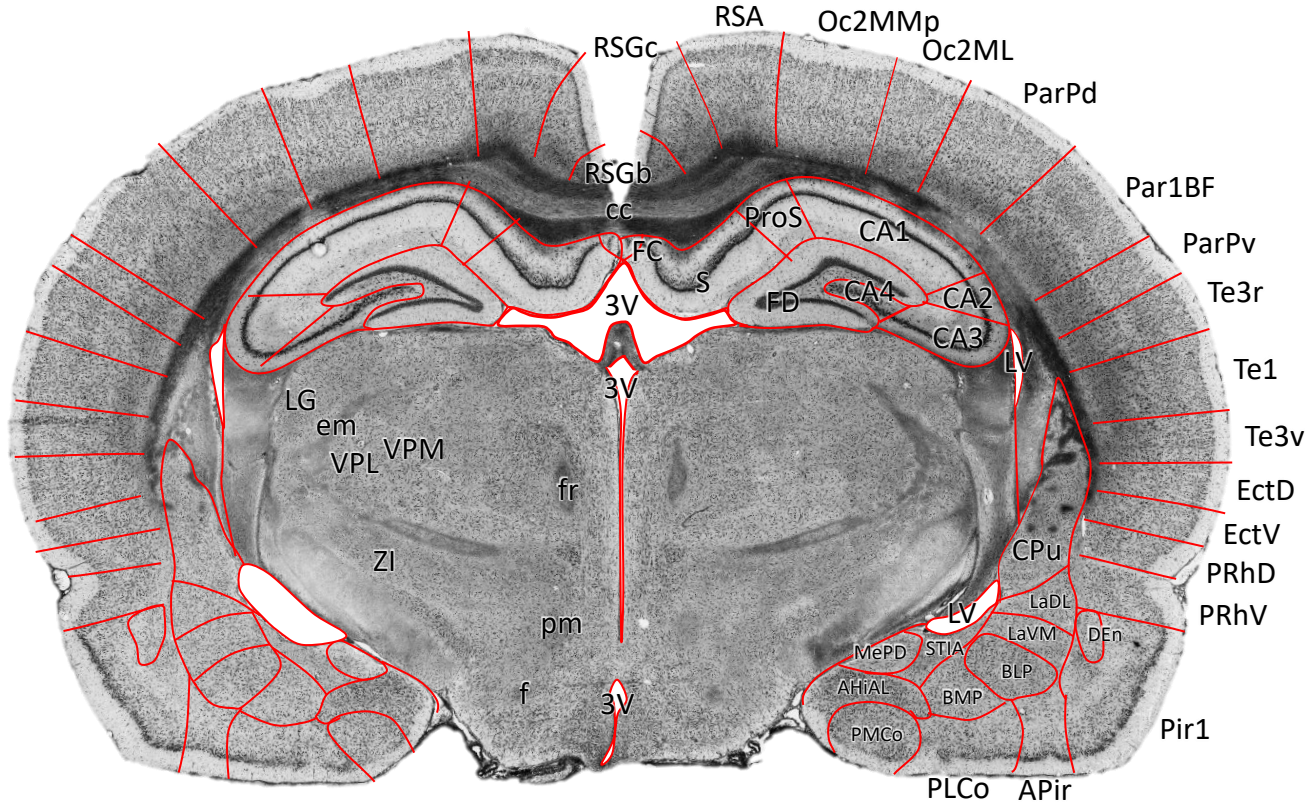
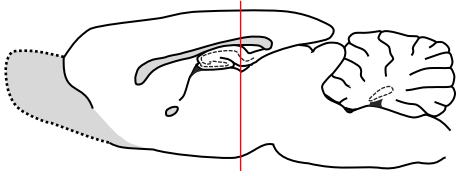
500µm

Section 740



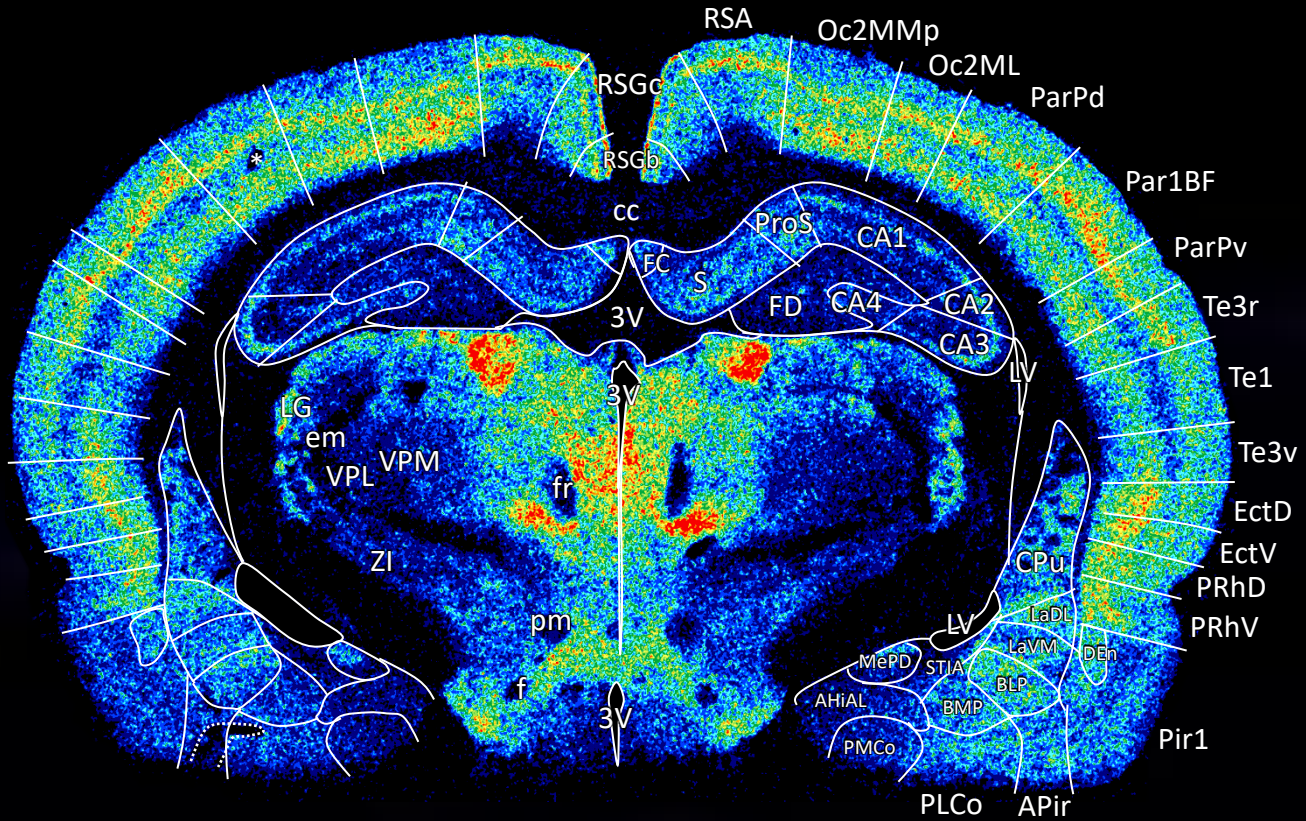
Level c23

Section 754



500µm

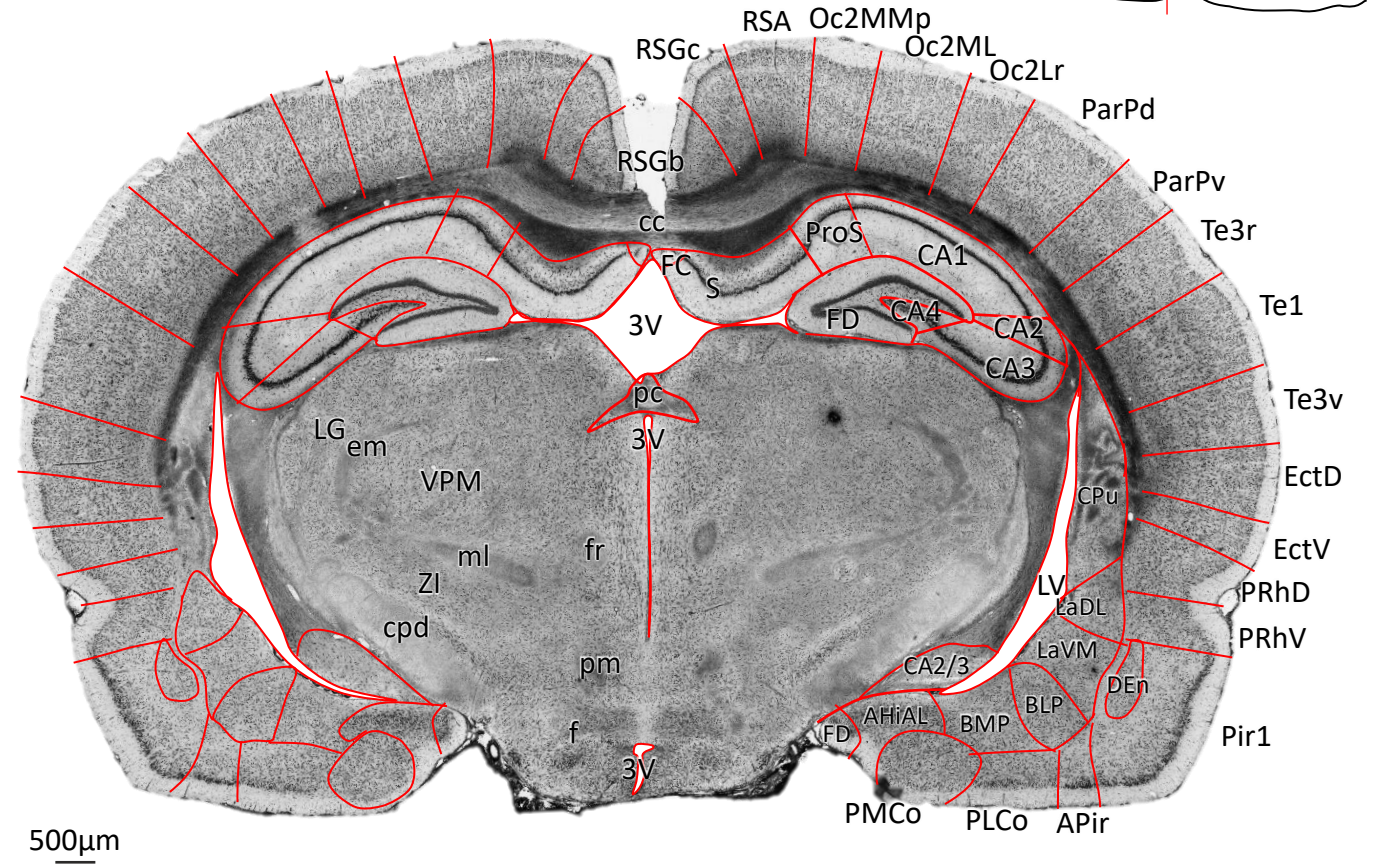
Section 755



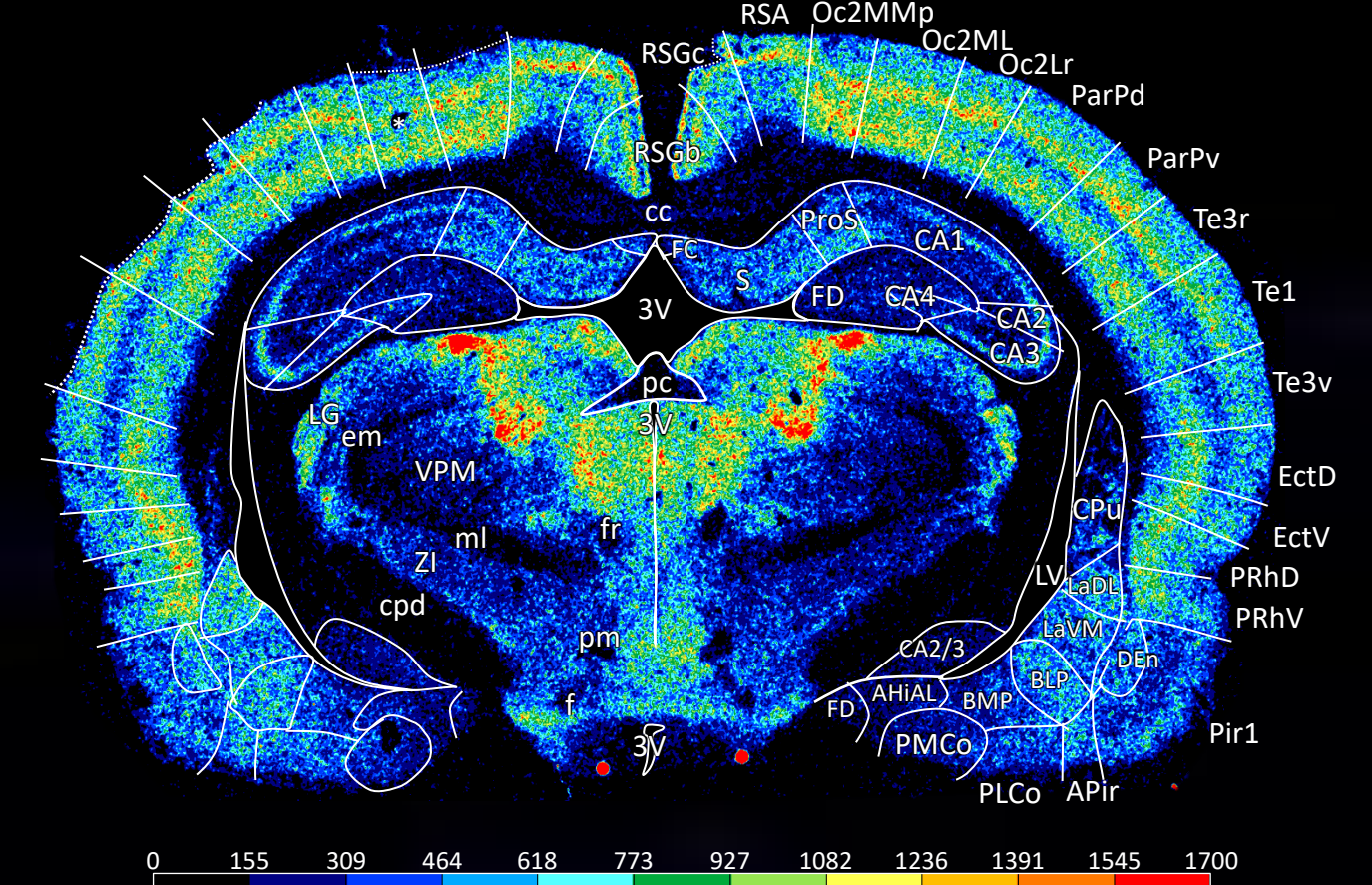
0 155 309 464 618 773 927 1082 1236 1391 1545 1700

Level c24

Section 769



Section 770



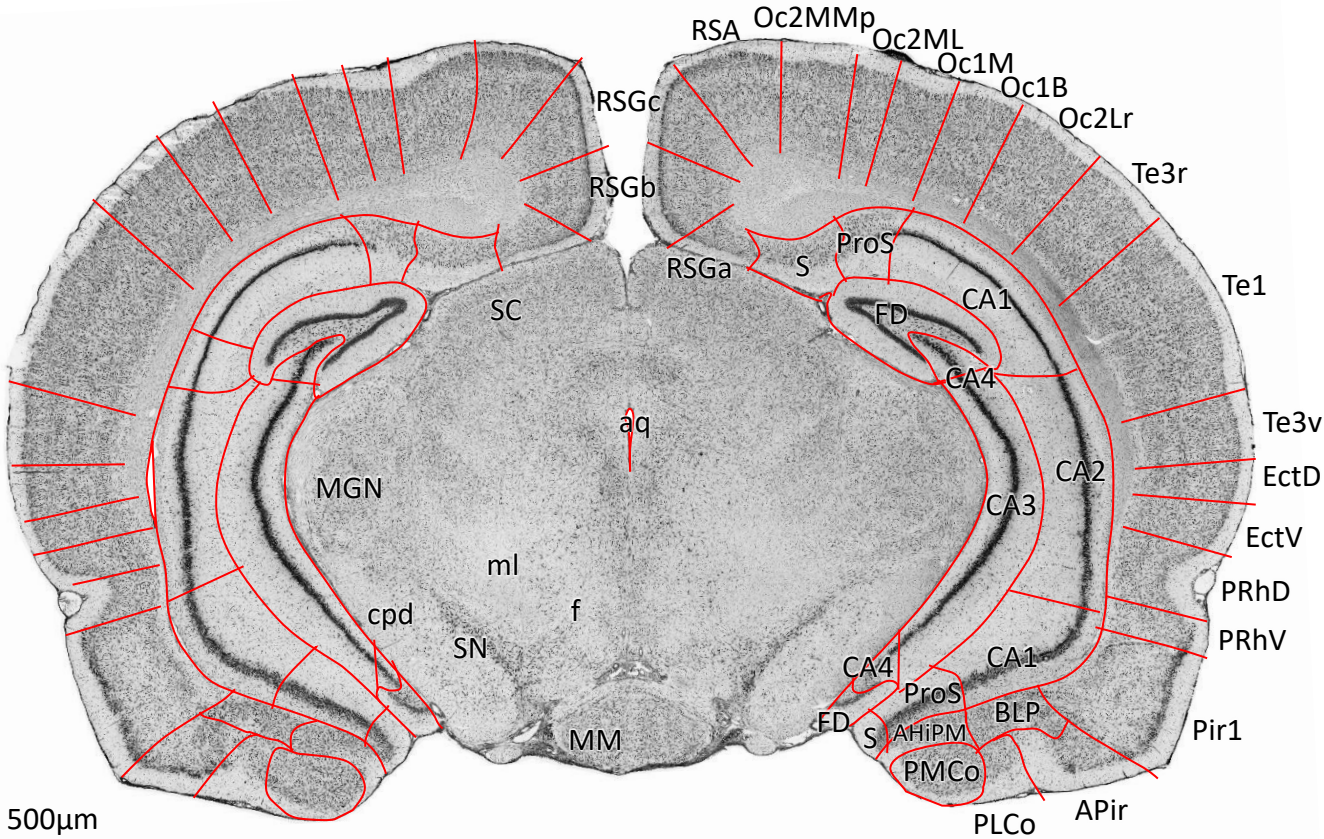
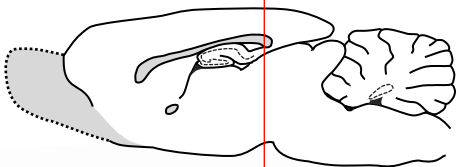
A line drawing of a right hand, palm facing left. A vertical red line is drawn through the center of the hand, passing between the thumb and the index finger. The thumb is on the left side of the line, and the other four fingers are on the right side. The line is positioned to represent the midline of the hand, separating the thumb from the other digits.

500µm

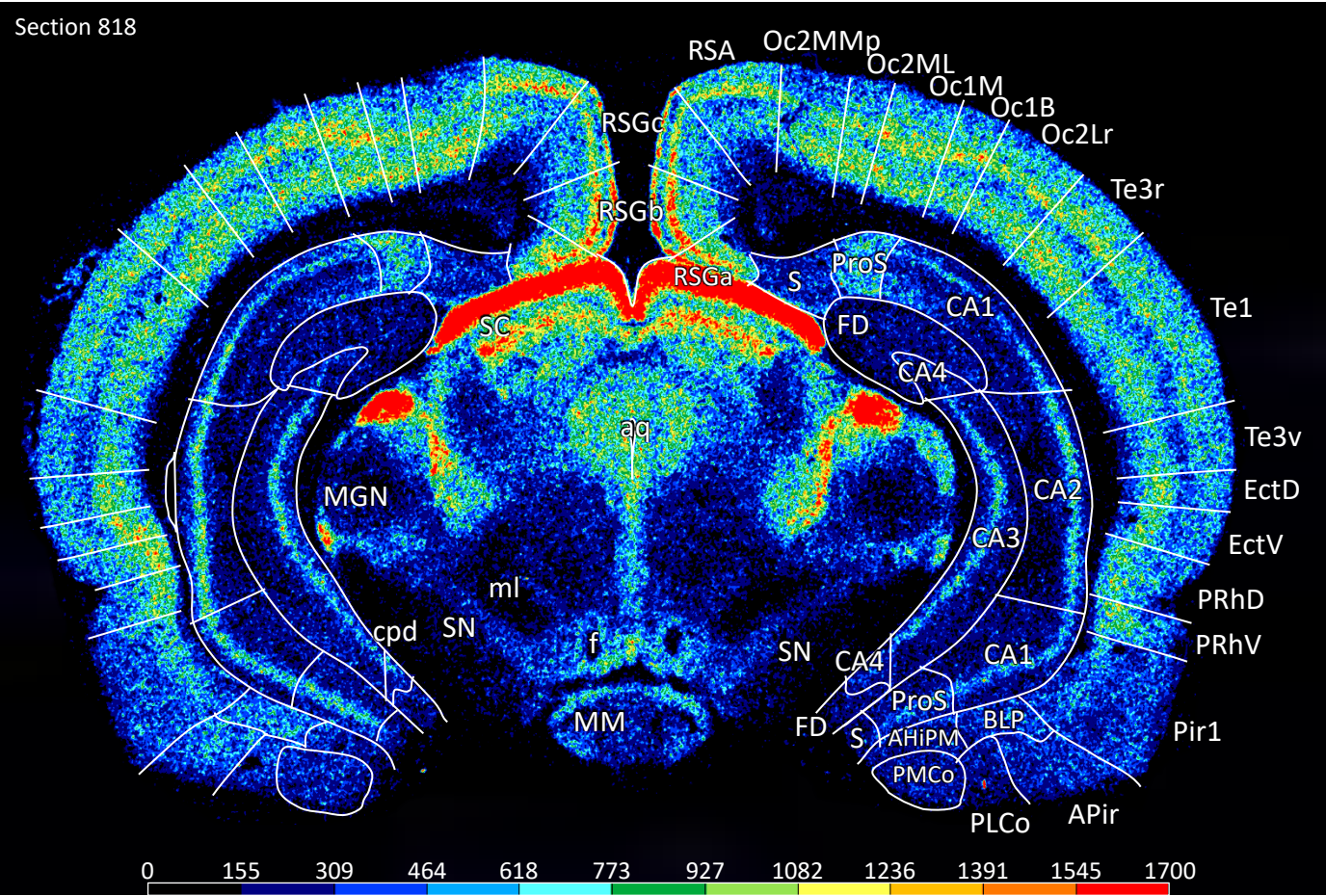
Figure 1 is a coronal section of a rat brain showing the distribution of ^{11}C -ABU. The image is a color-coded PET scan with a scale from 0 to 1700. Various brain regions are labeled with abbreviations. The color scale at the bottom ranges from 0 (blue) to 1700 (red). The brain is shown in a coronal view, with the cerebellum at the bottom and the cerebral cortex at the top. The distribution of ^{11}C -ABU is highest in the cerebral cortex and lowest in the cerebellum.

Level c26

Section 817

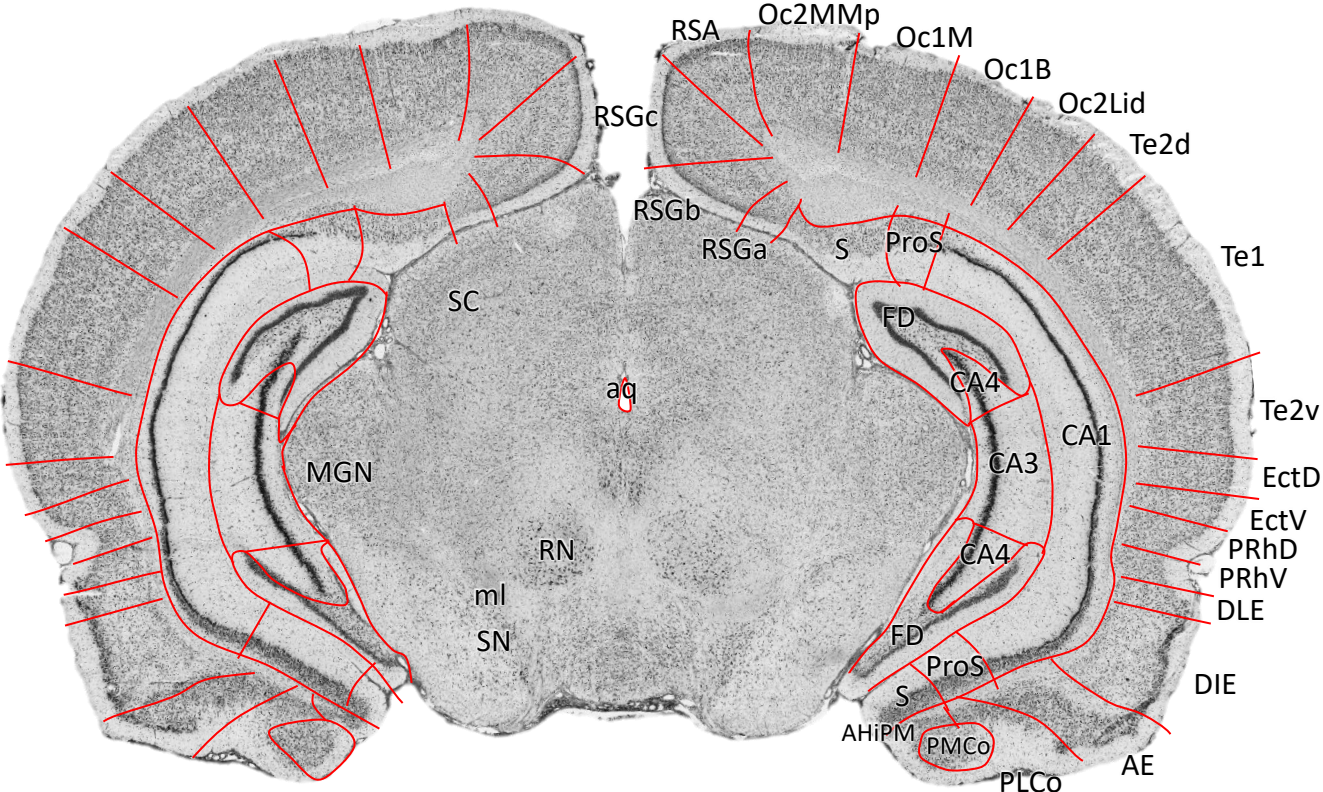
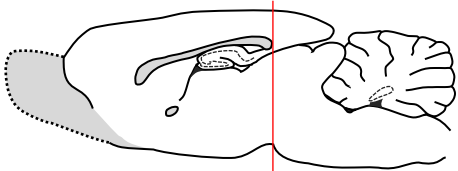


Section 818



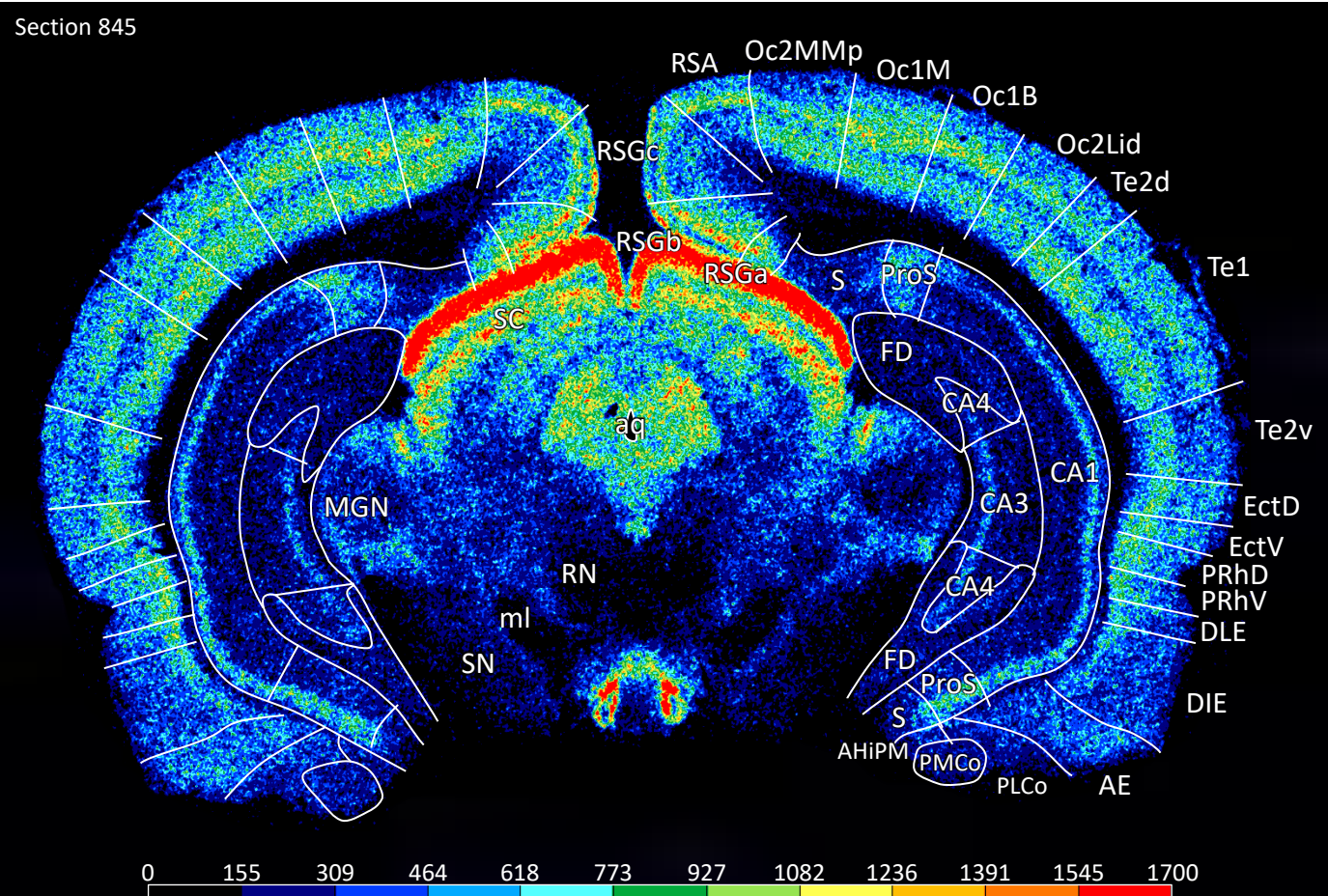
Level c27

Section 844



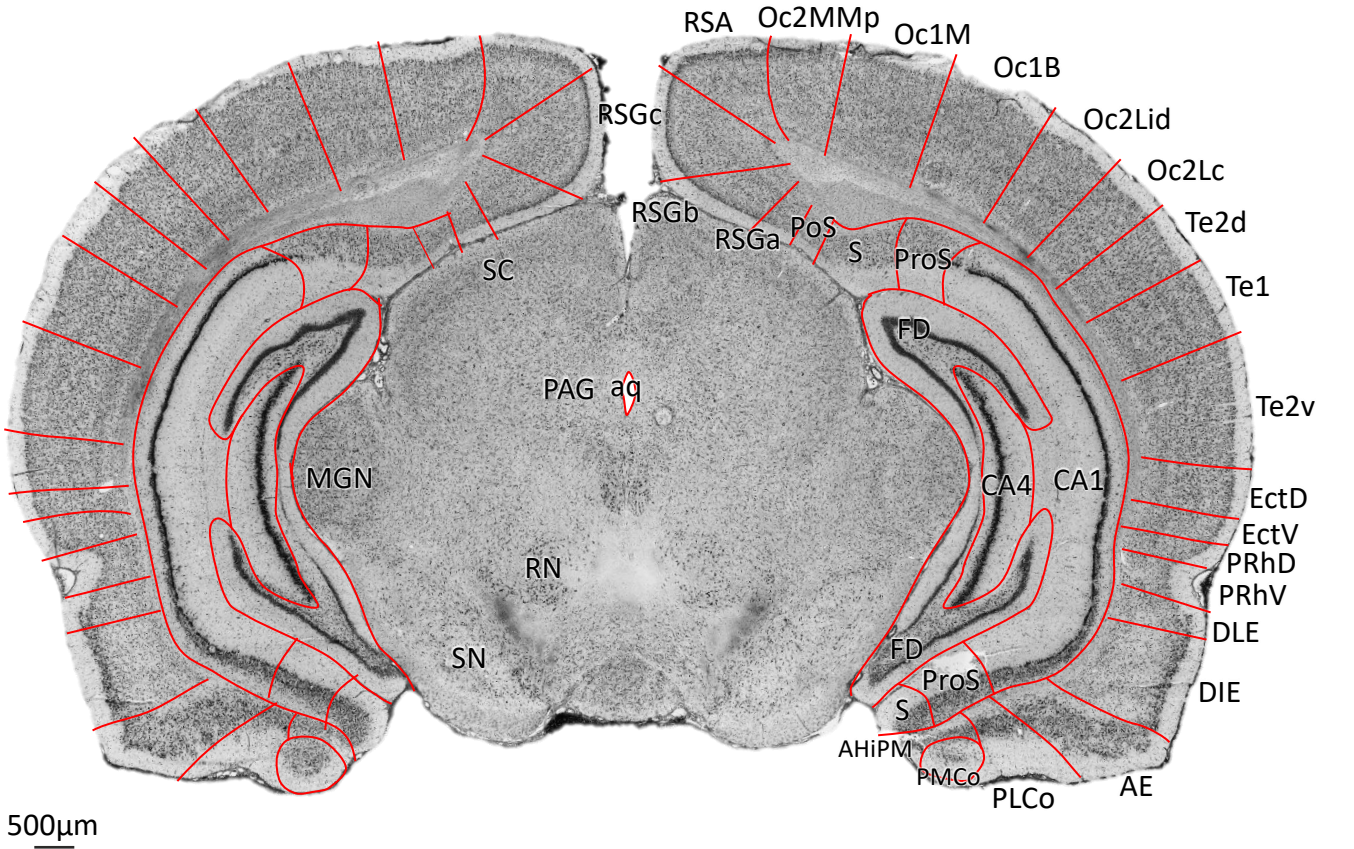
500µm

Section 845

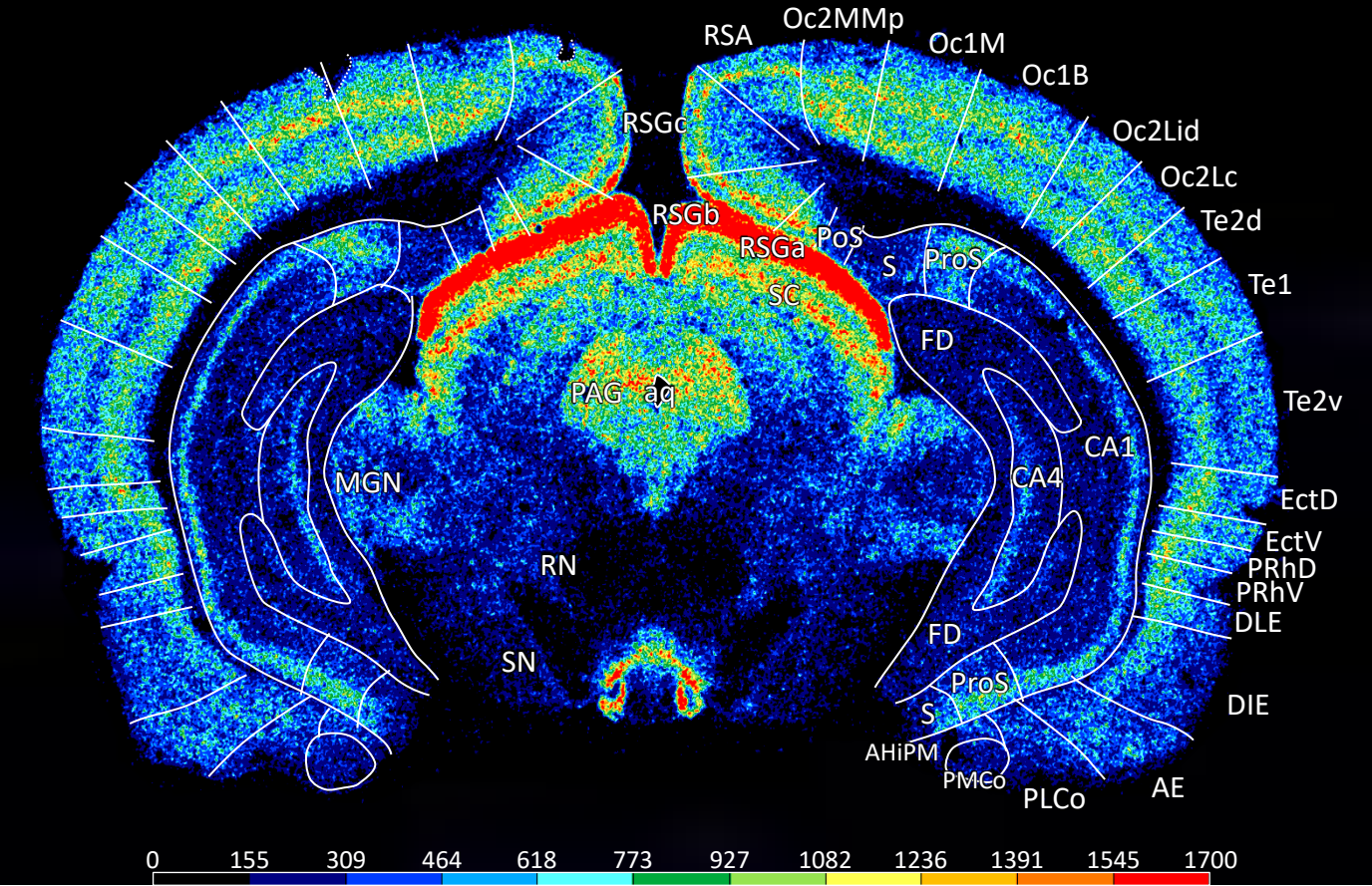


Level c28

Section 850

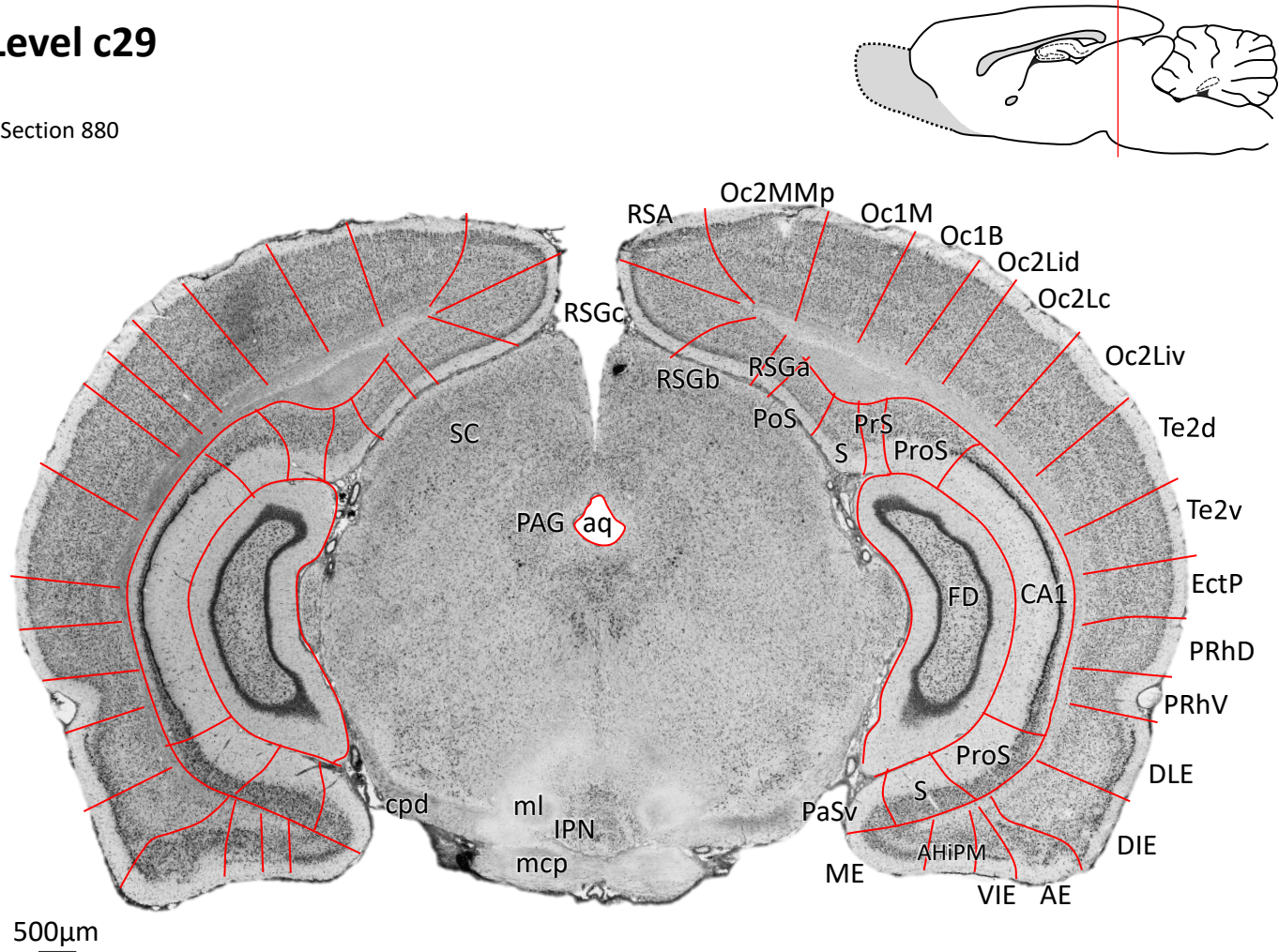


Section 851

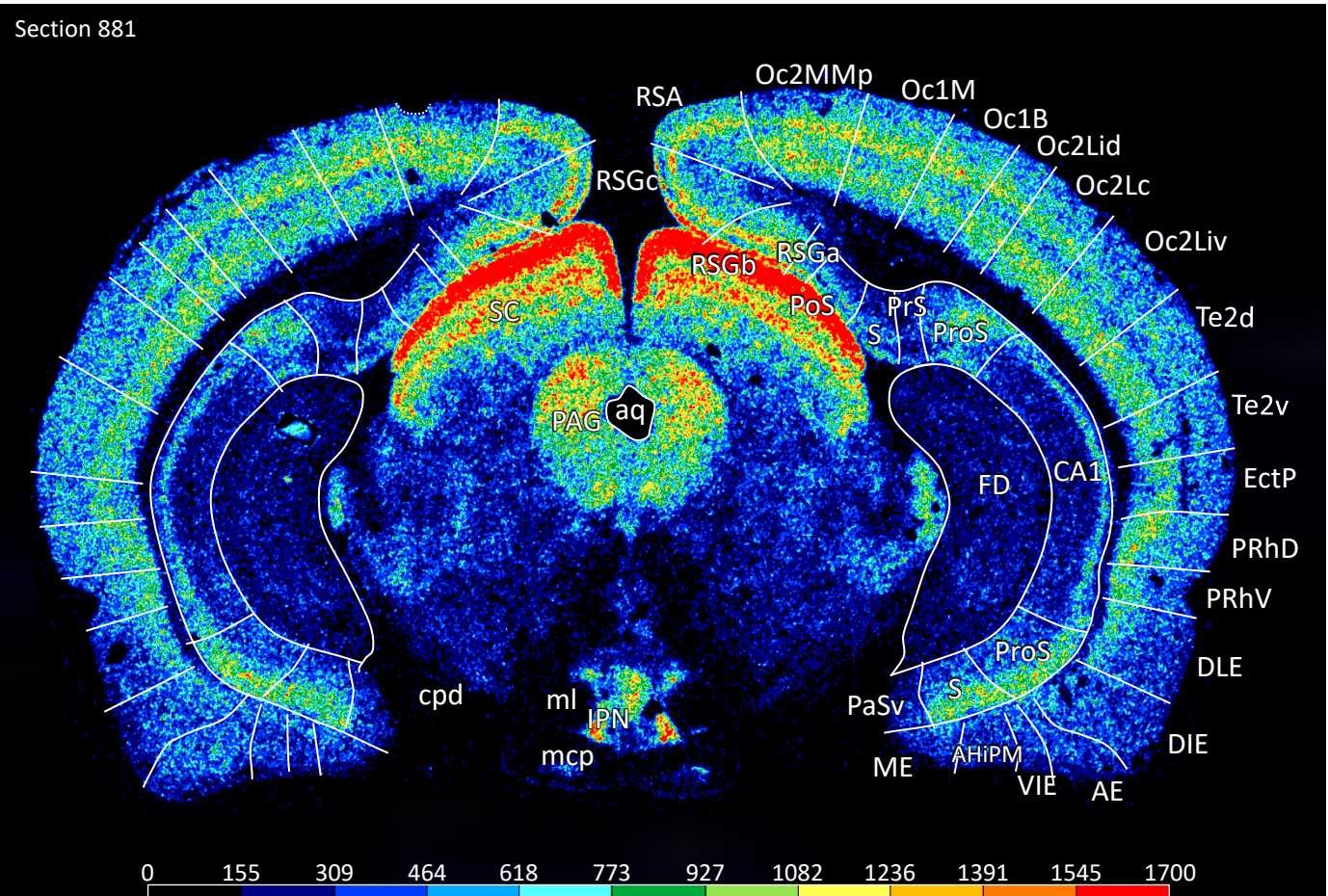


Level c29

Section 880

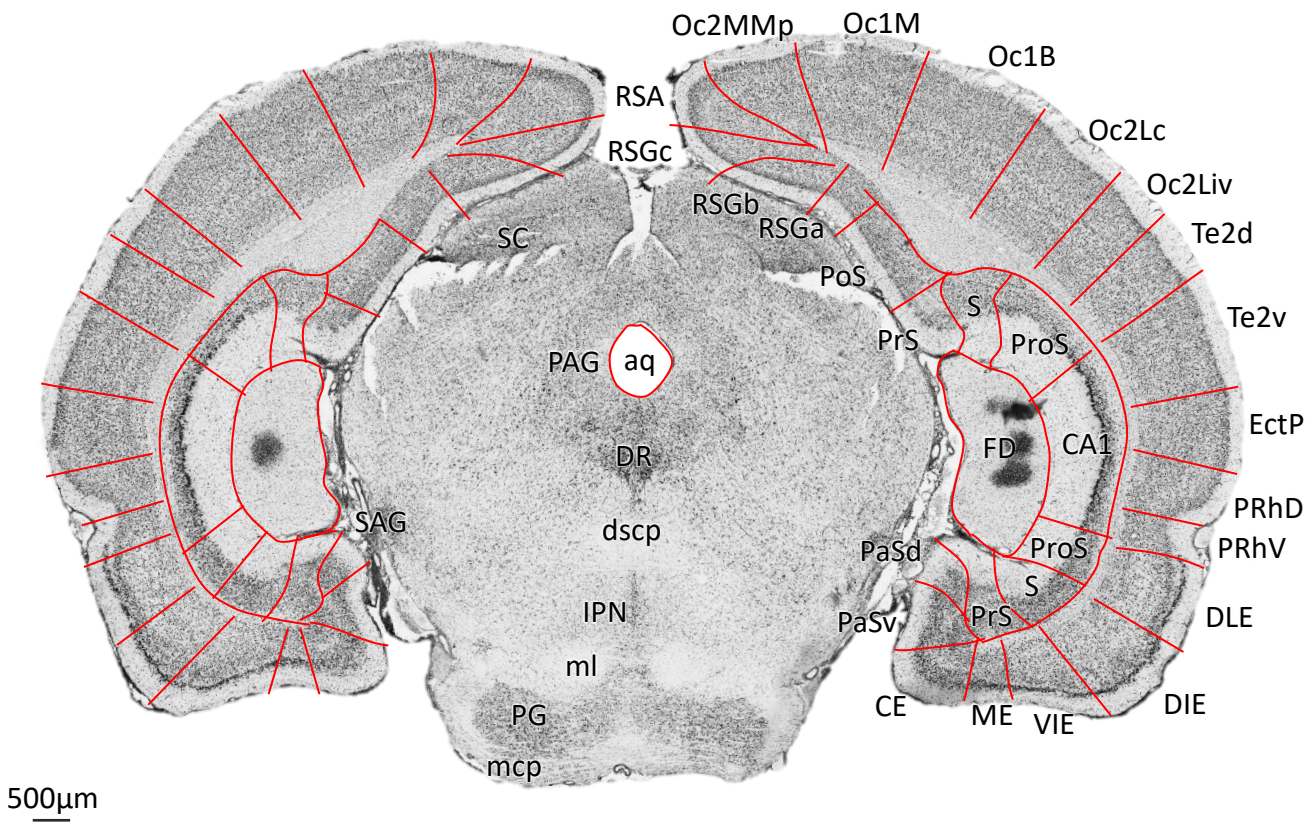
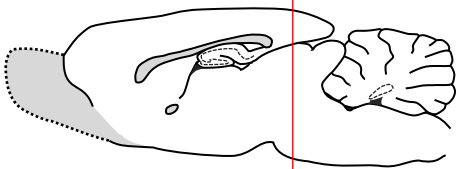


Section 881

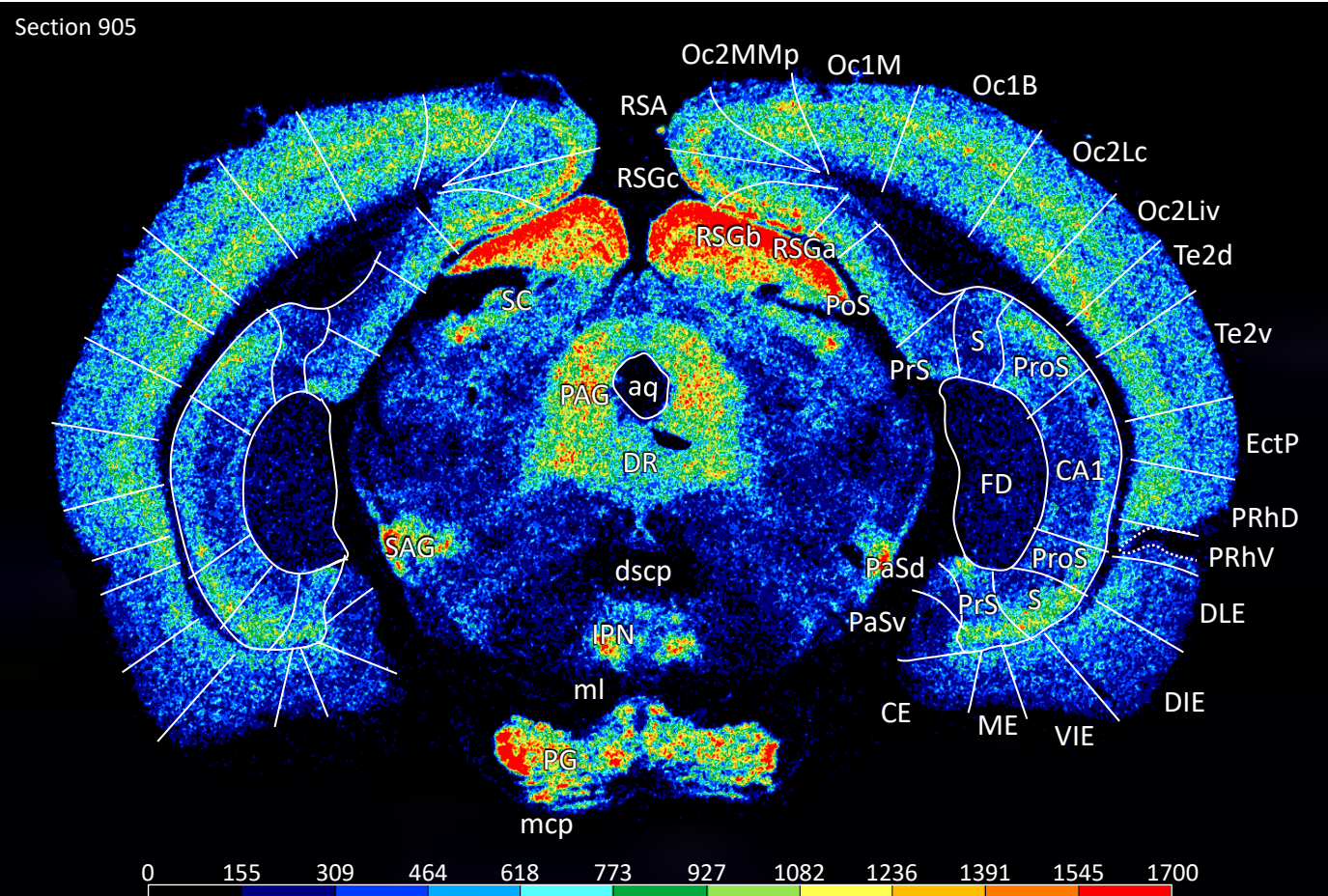


Level c30

Section 904

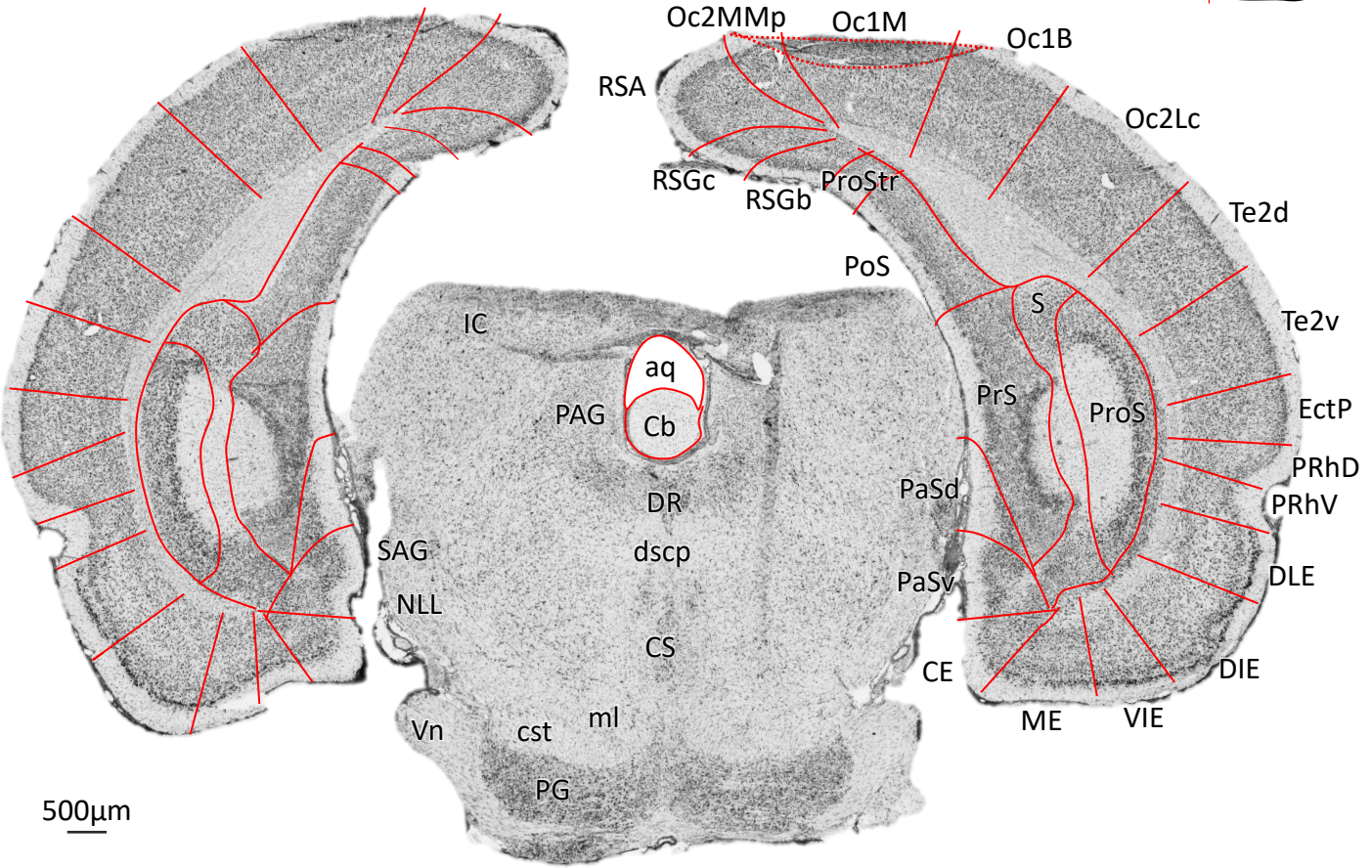


Section 905

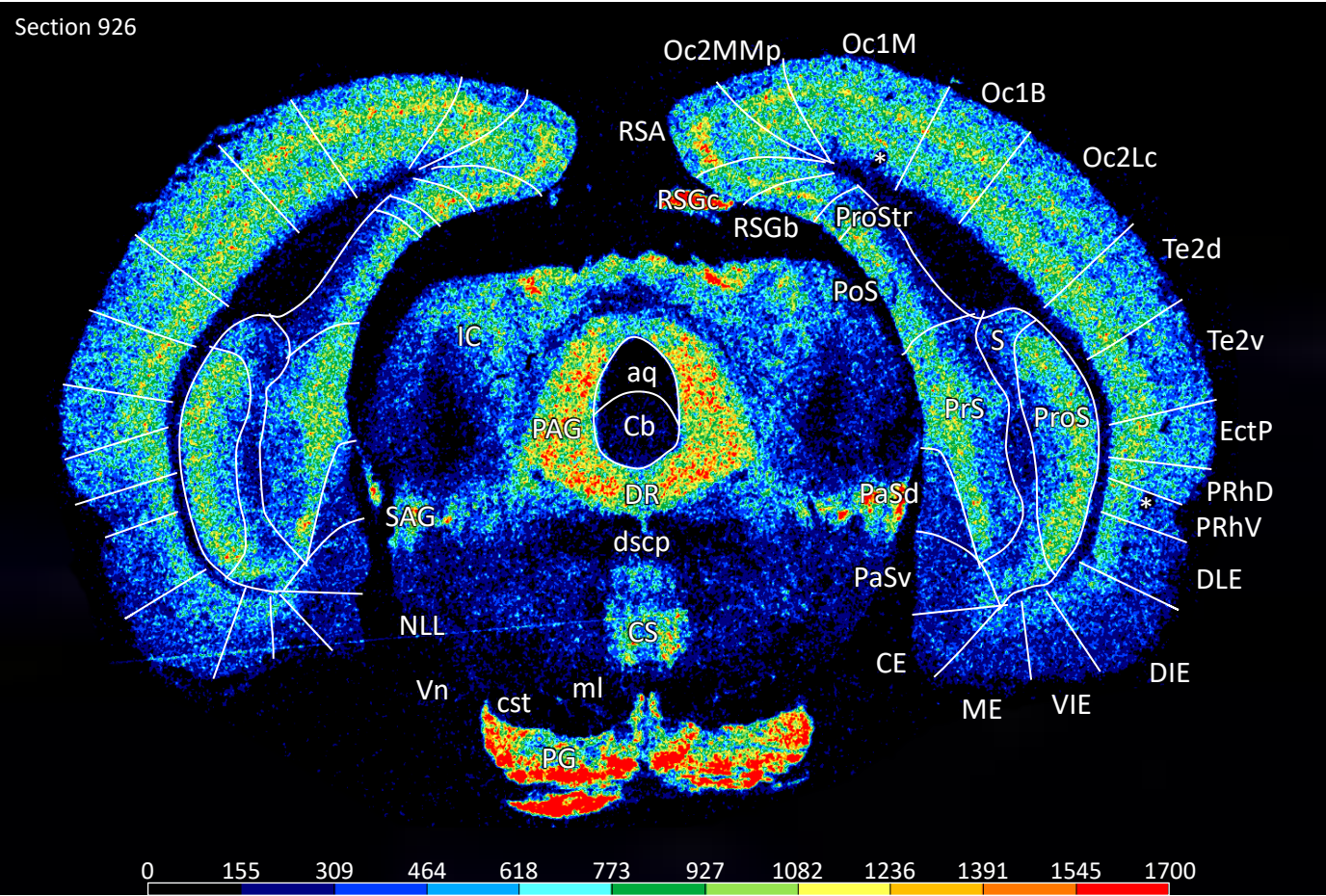


Level c31

Section 925

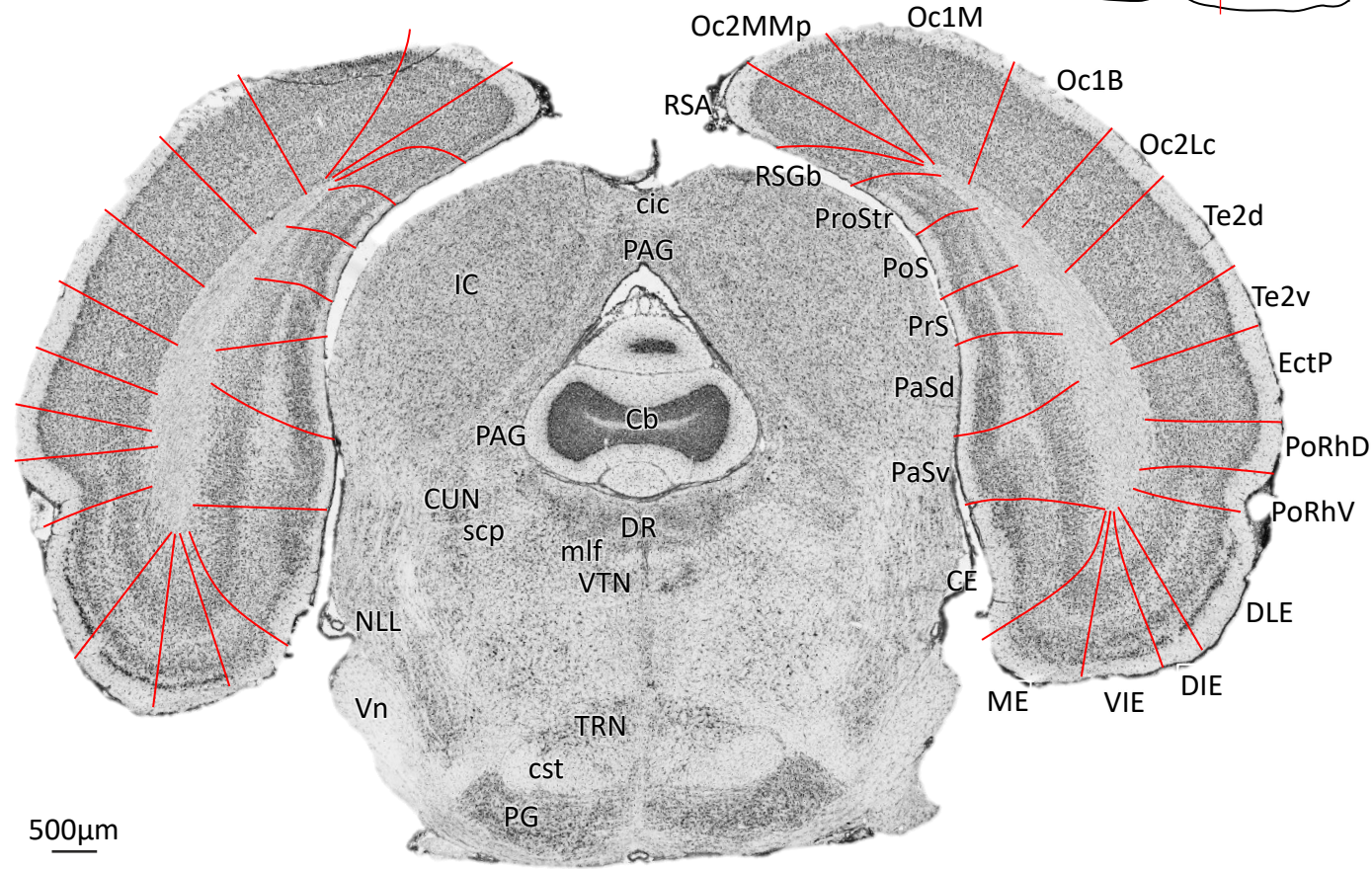


Section 926

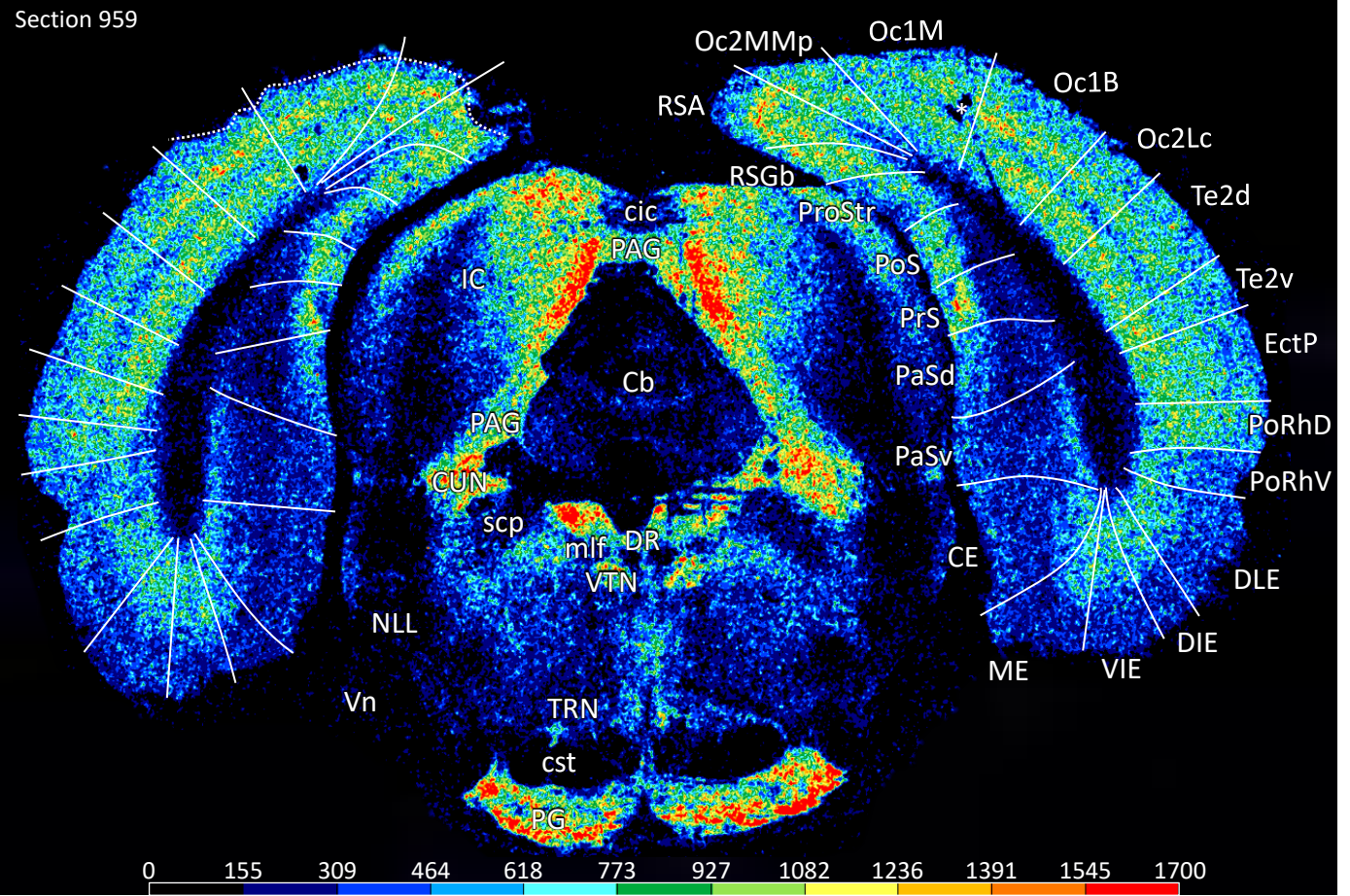


Level c32

Section 958

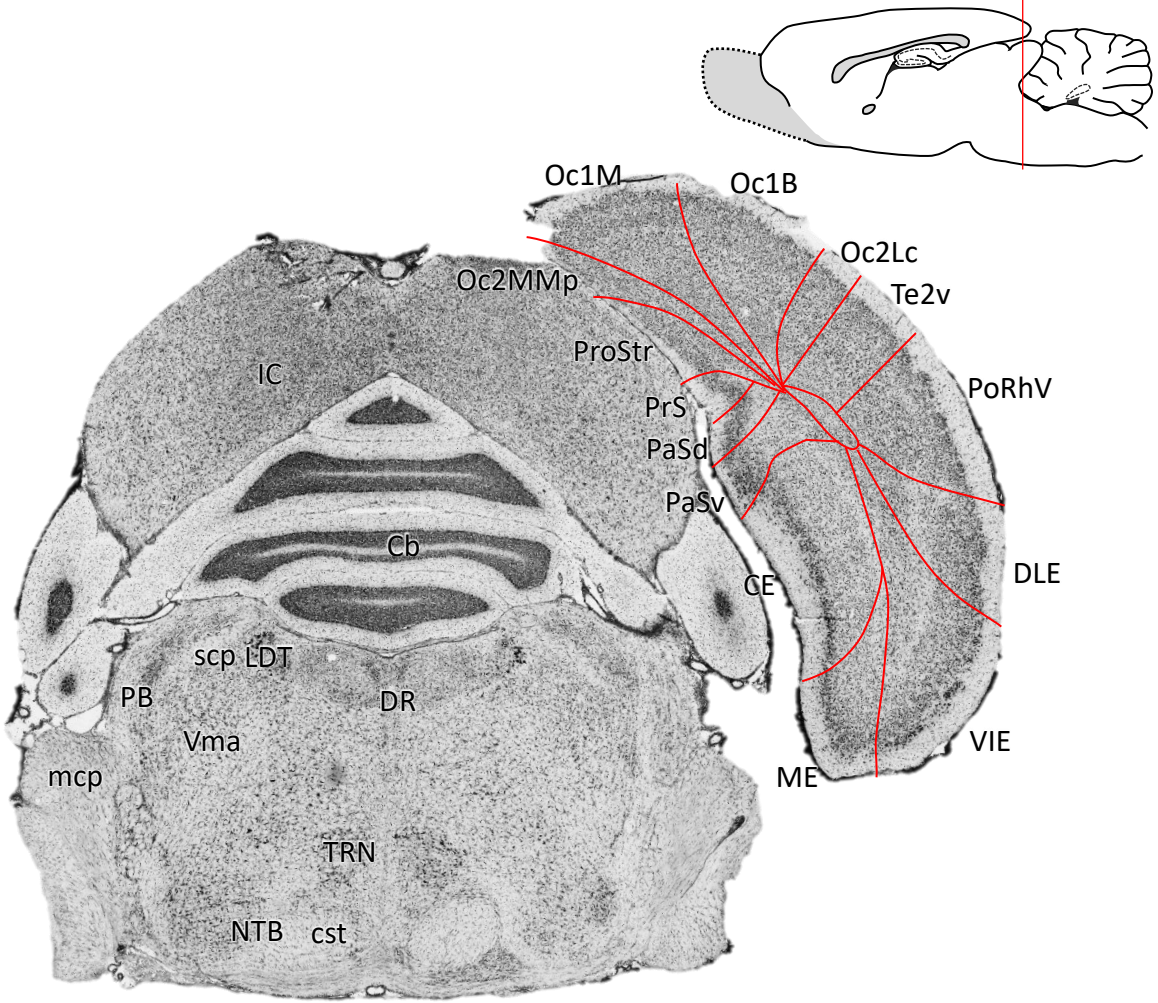


Section 959

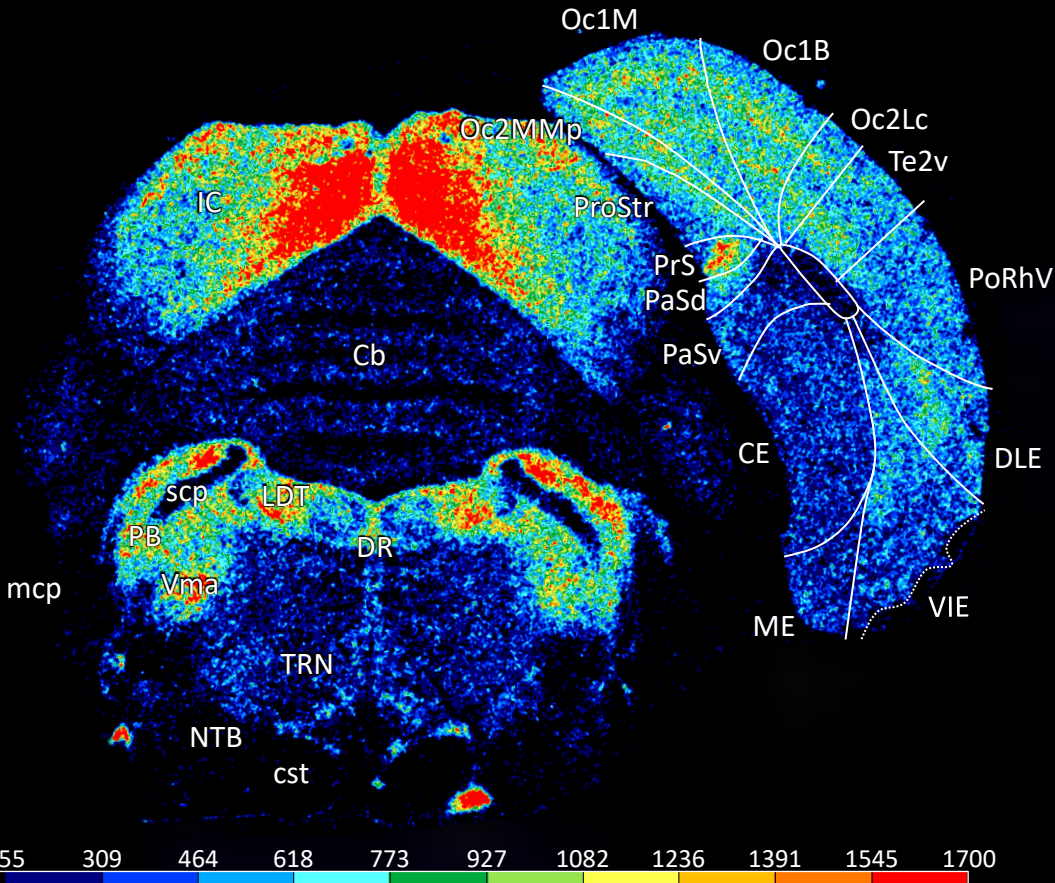


Level c33

Section 991

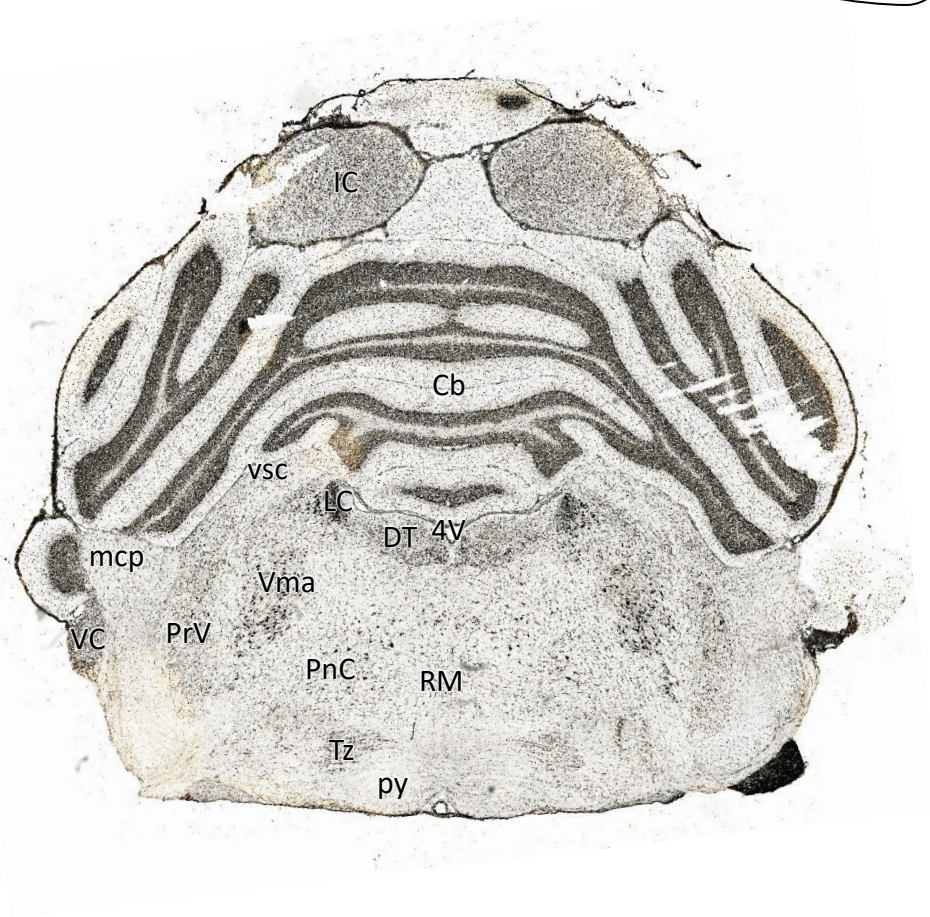
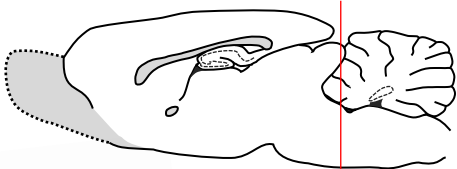


Section 992

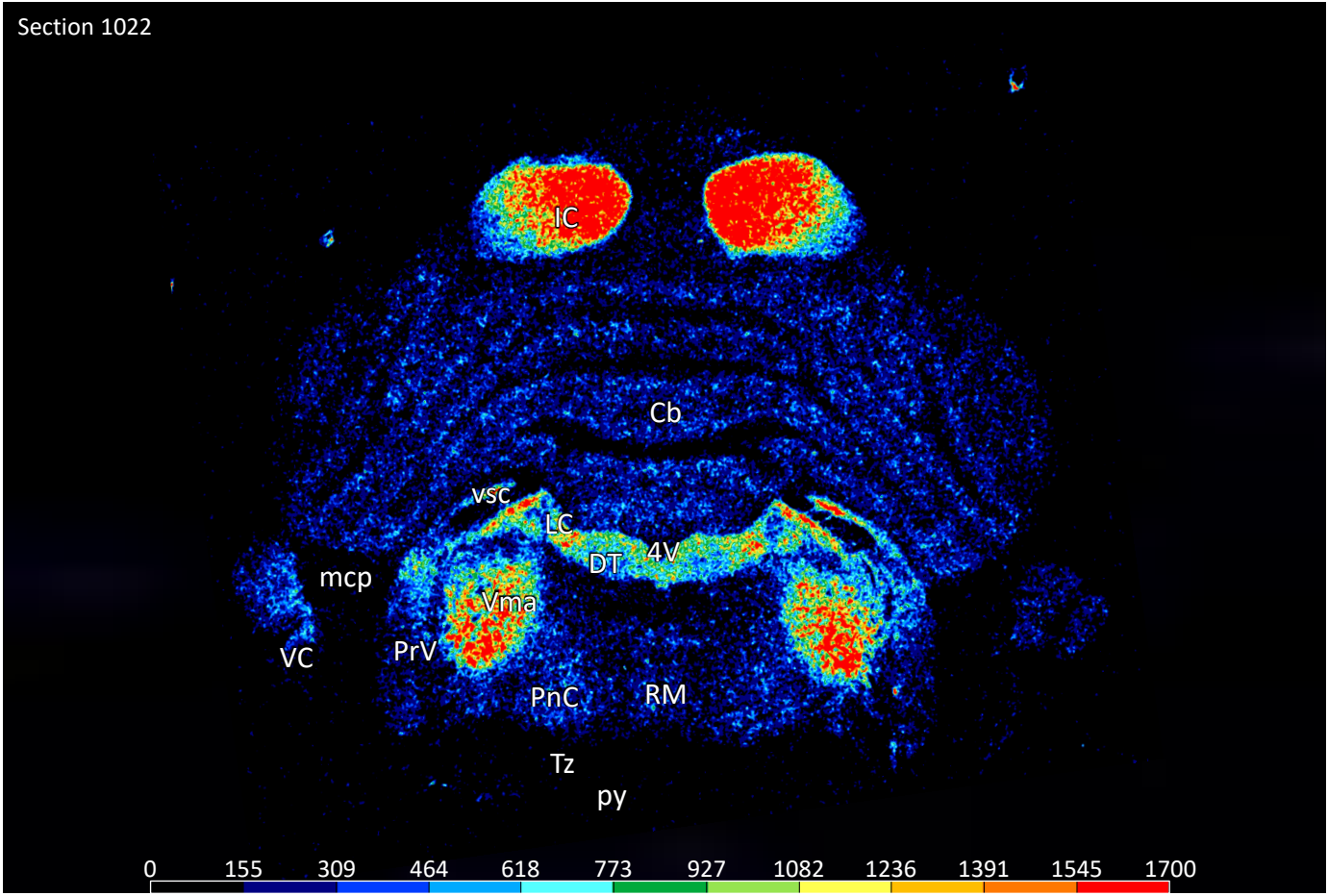


Level c34

Section 1021

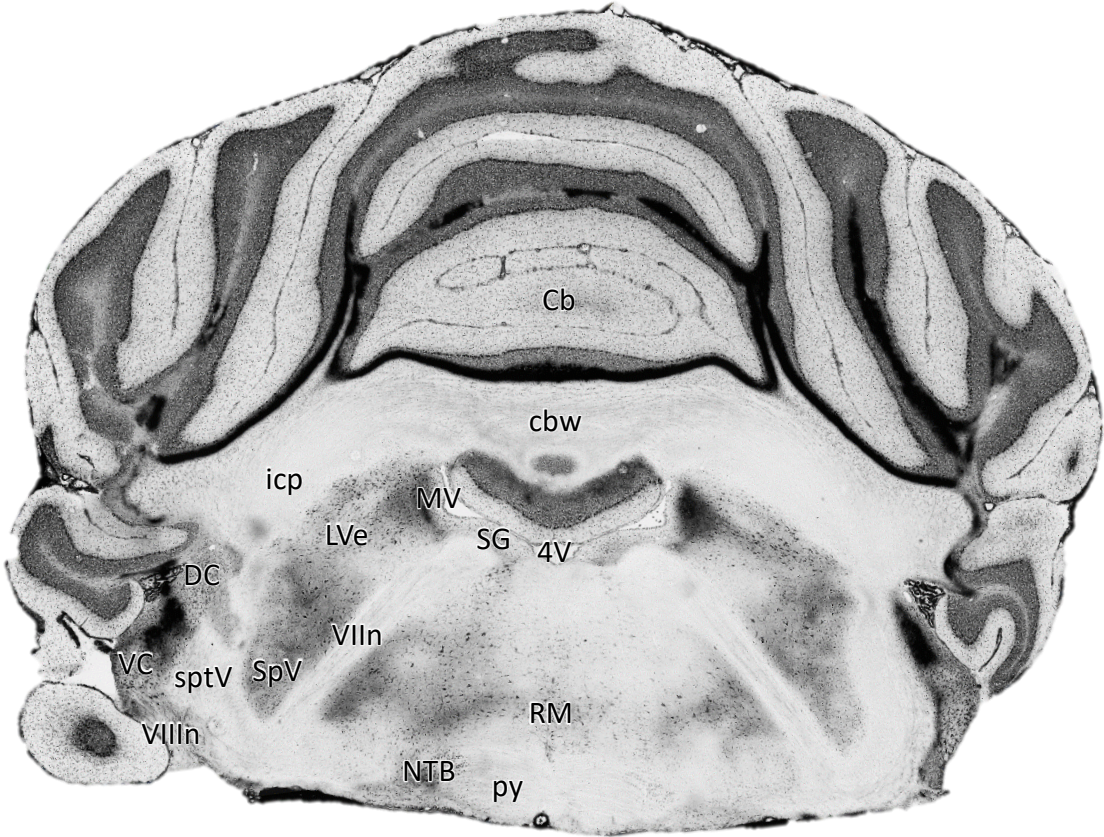
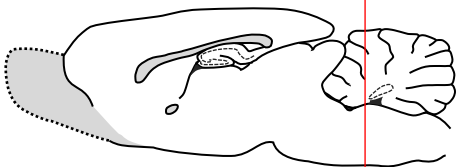


Section 1022

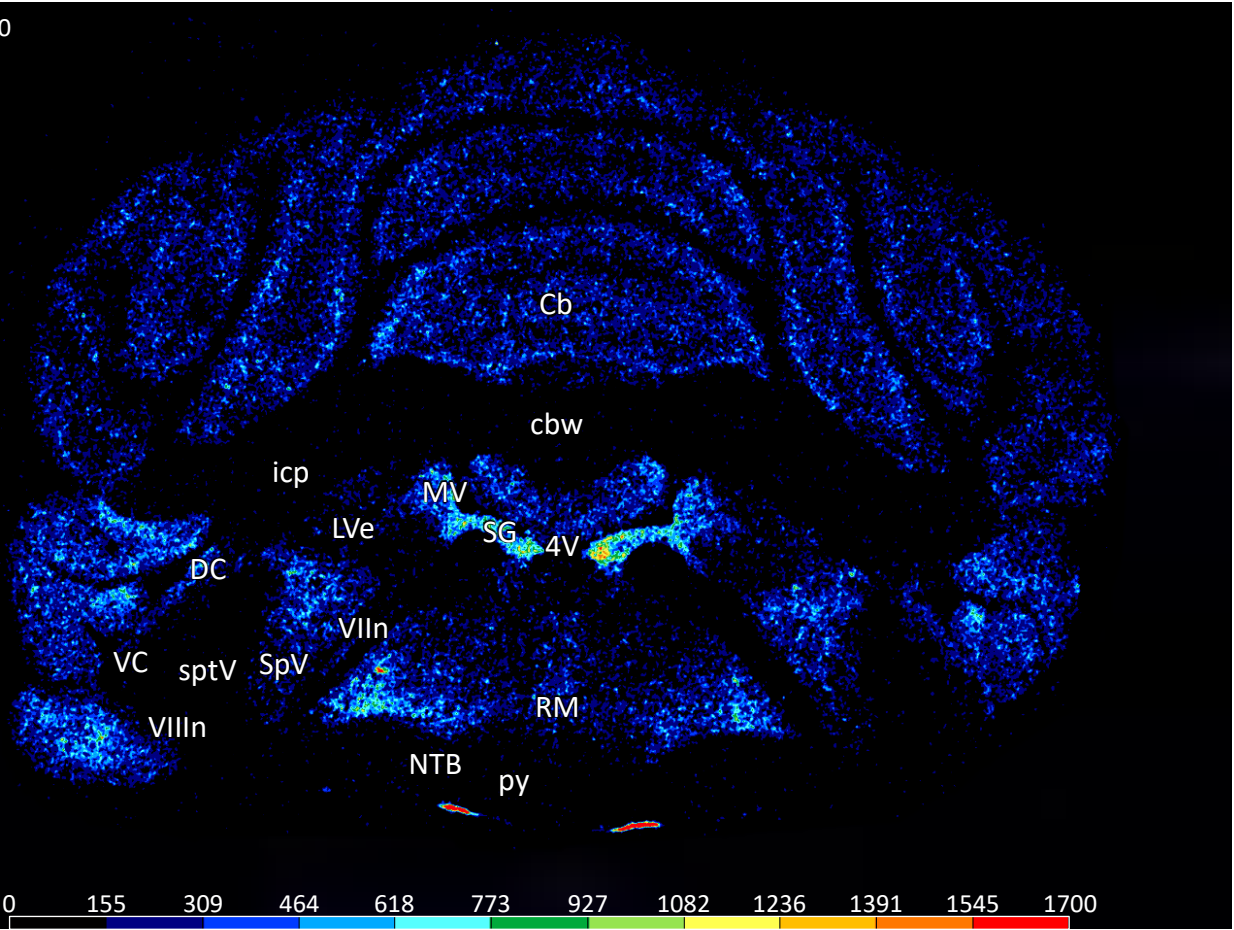


Level c35

Section 1066

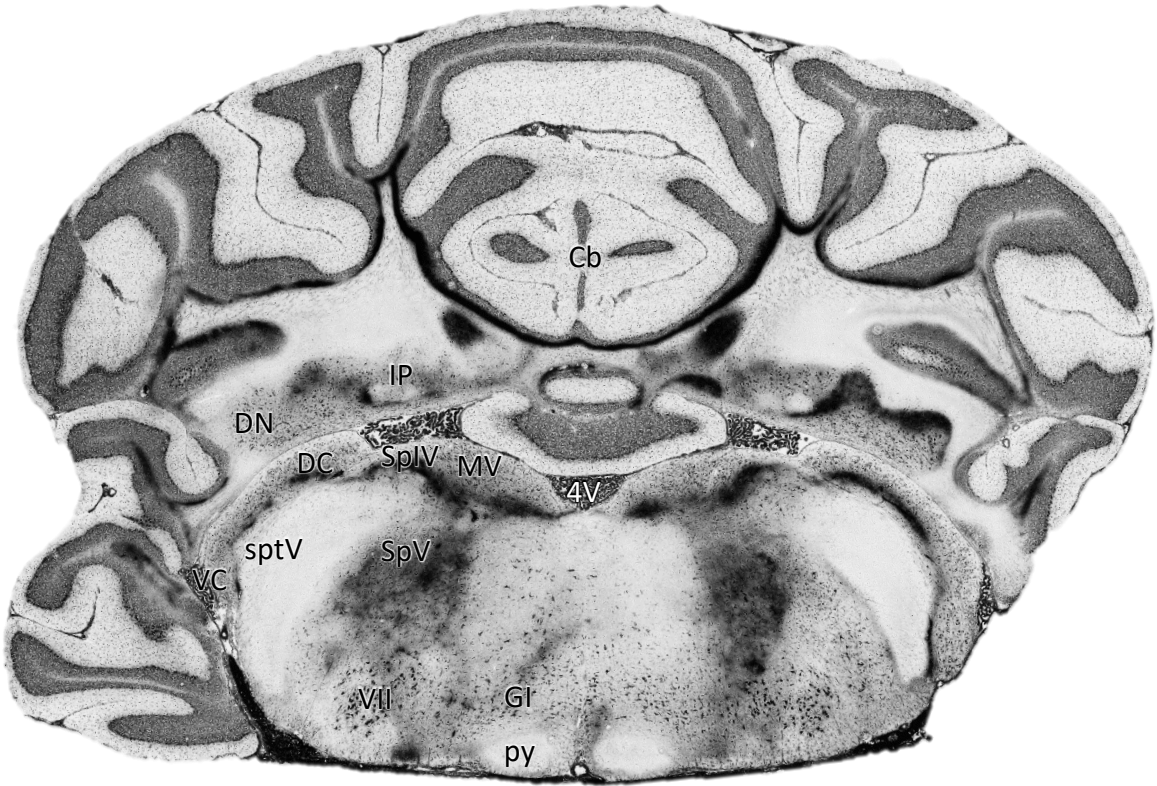
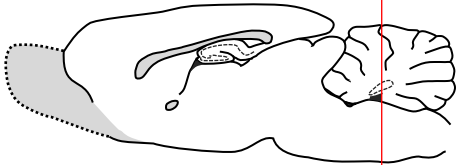


Section 1070



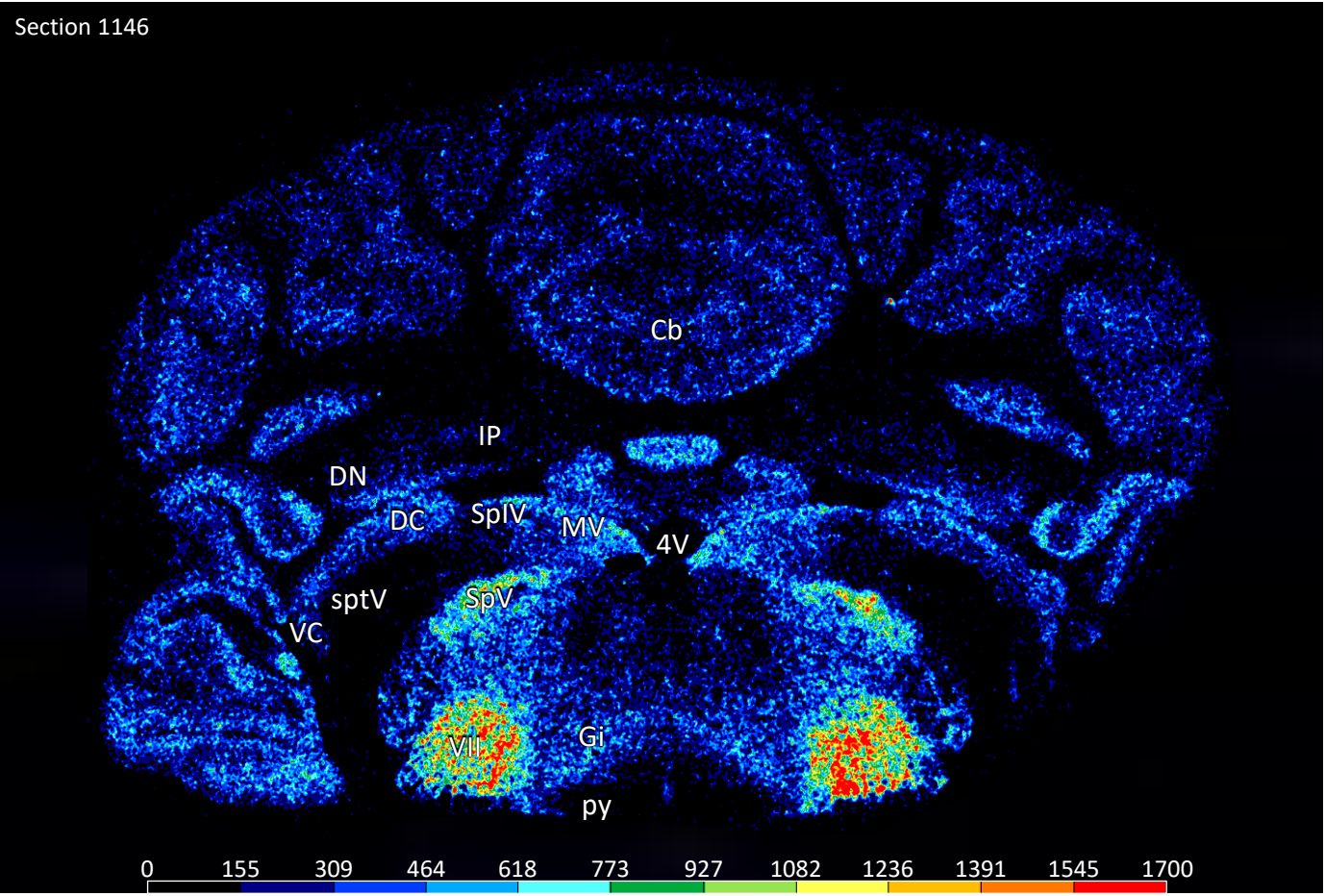
Level c36

Section 1145



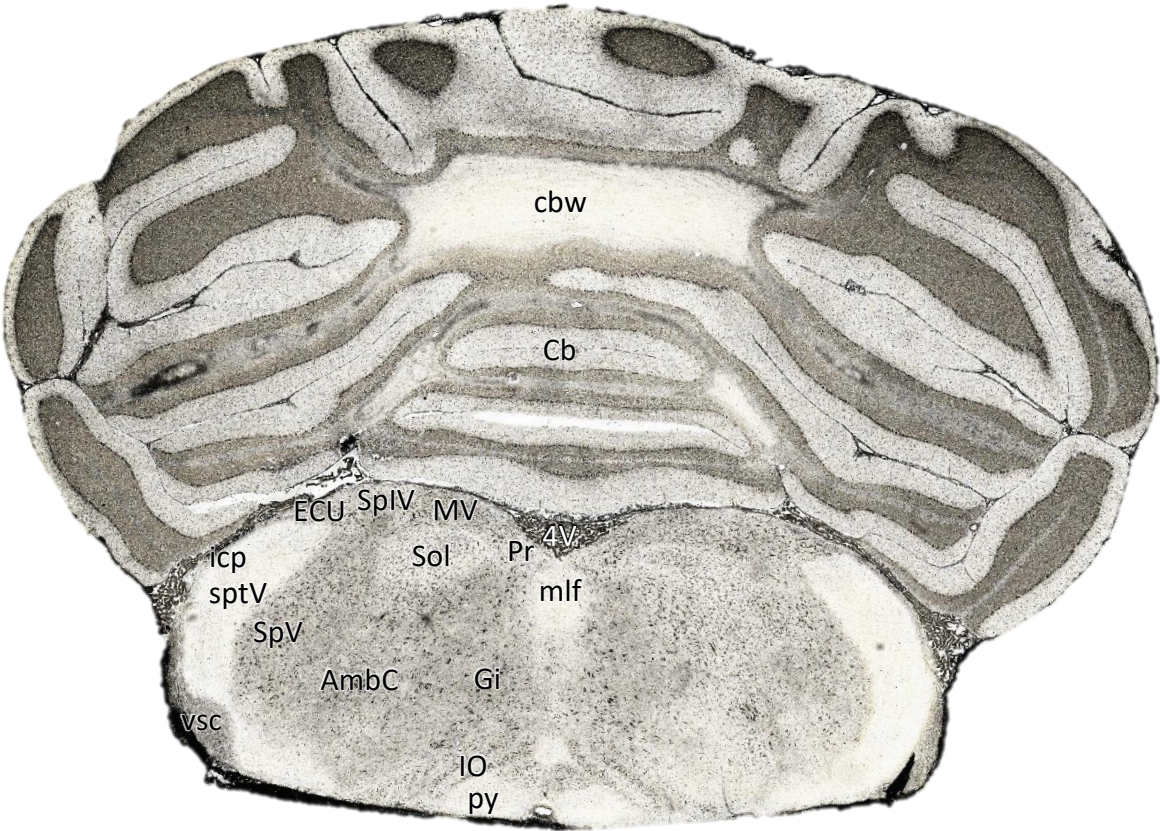
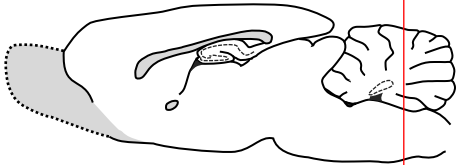
500µm

Section 1146



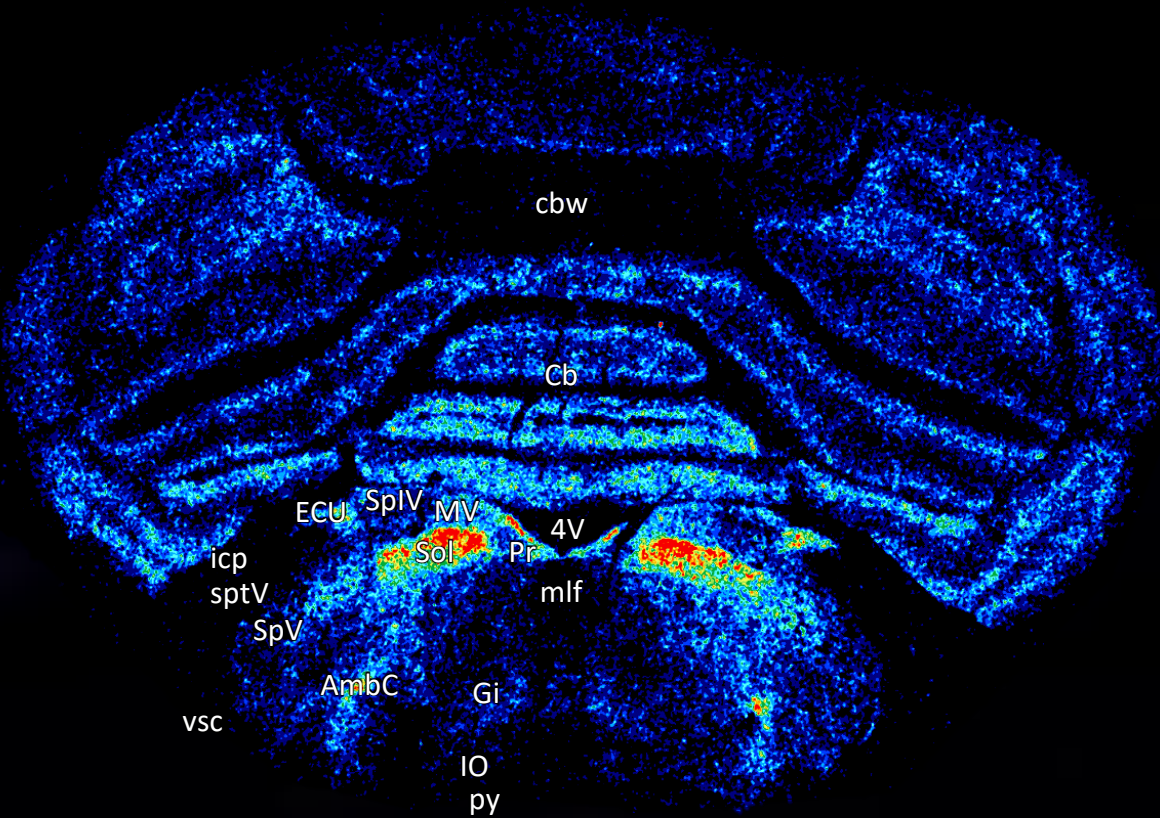
Level c37

Section 1199



500µm

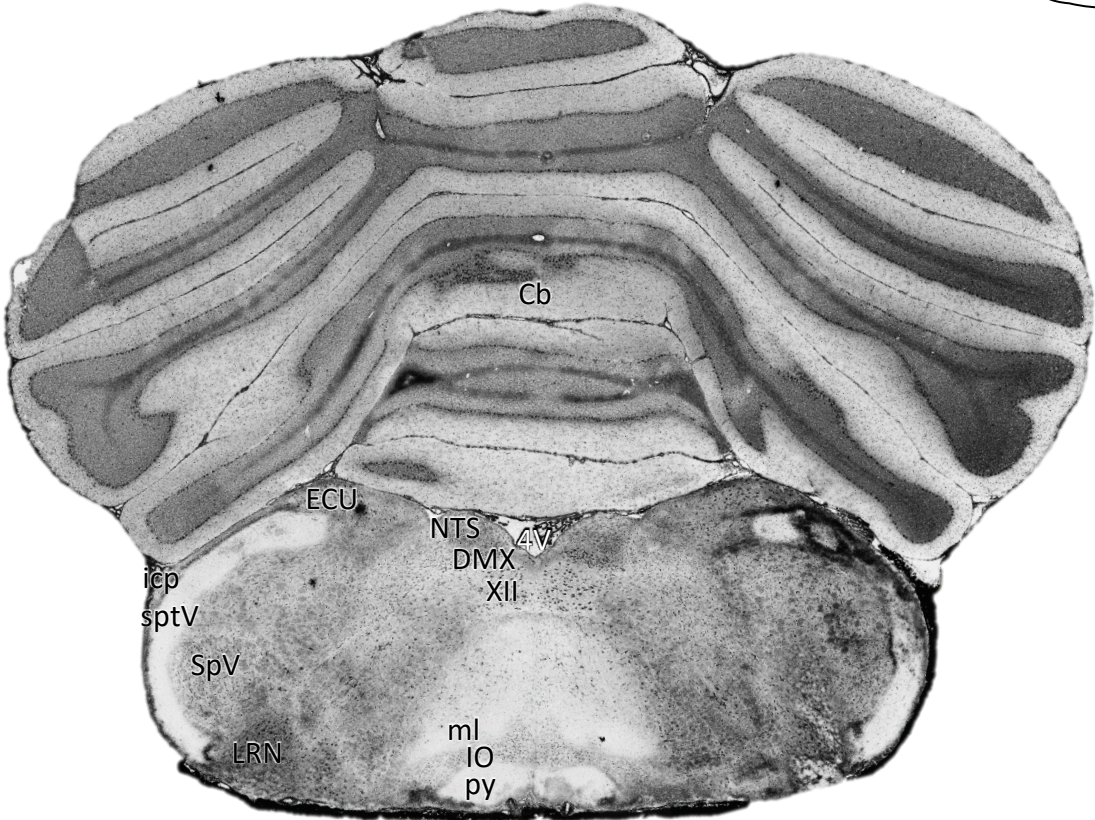
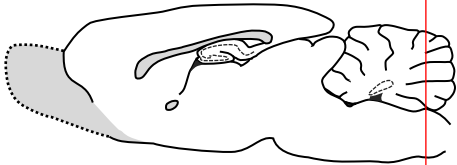
Section 1200



0 155 309 464 618 773 927 1082 1236 1391 1545 1700

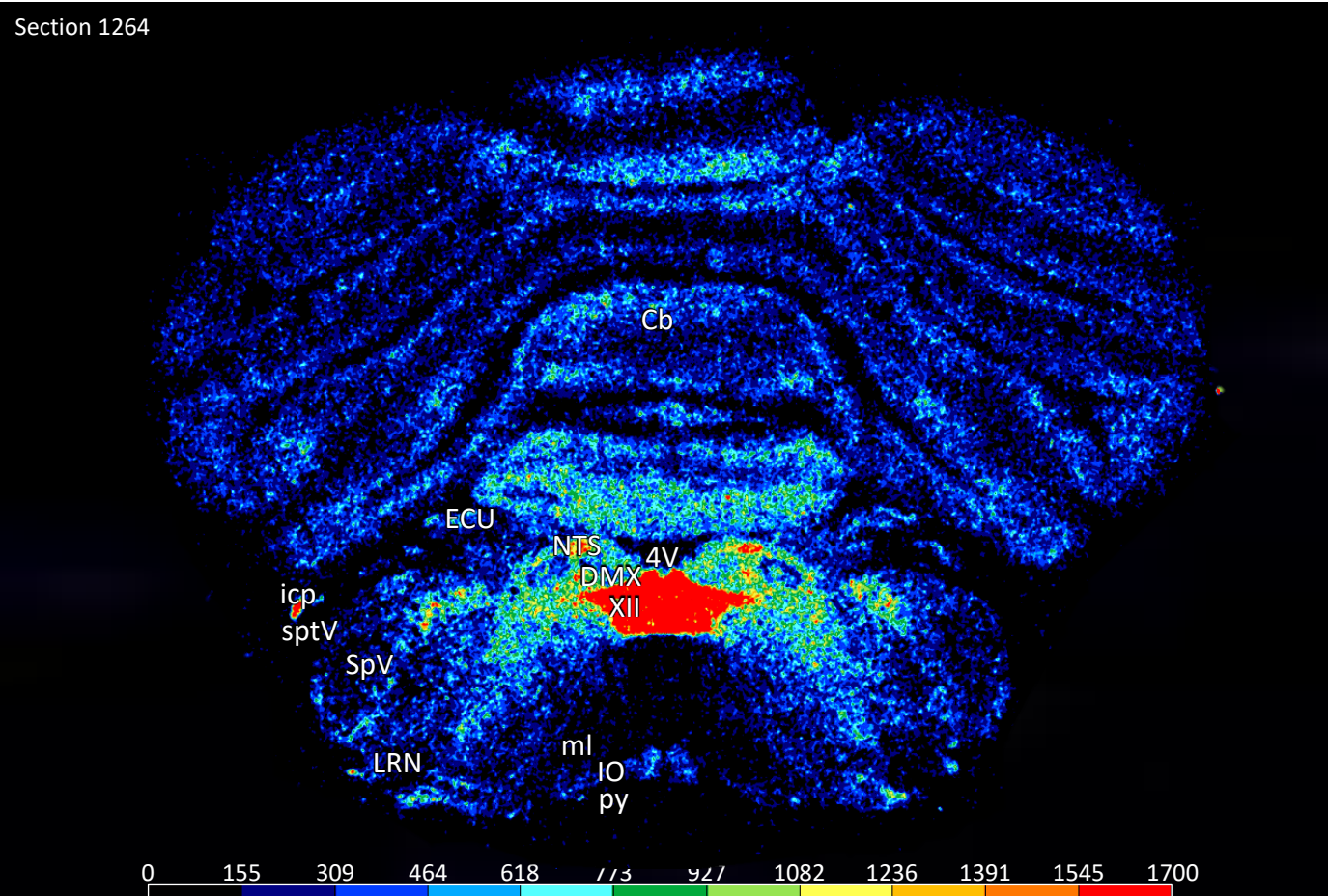
Level c38

Section 1263



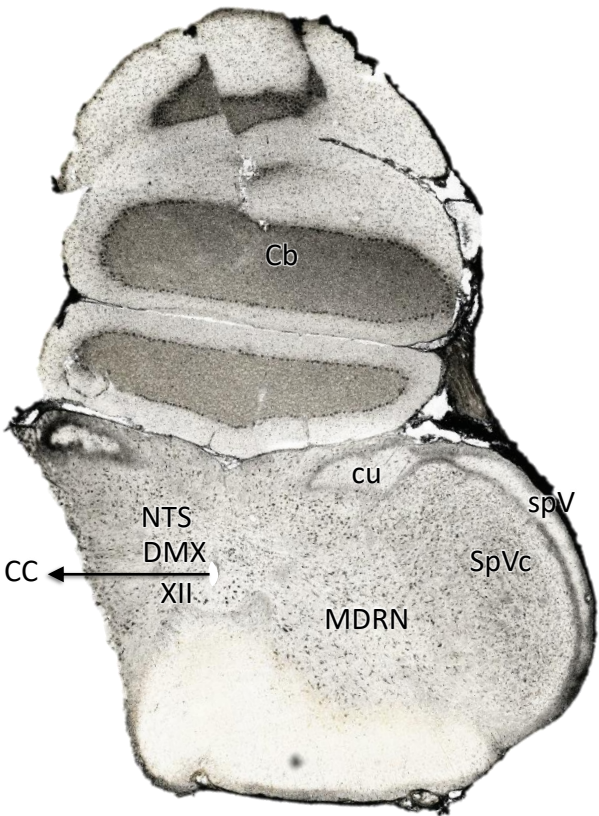
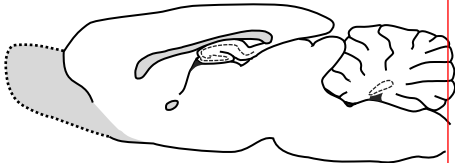
500µm

Section 1264



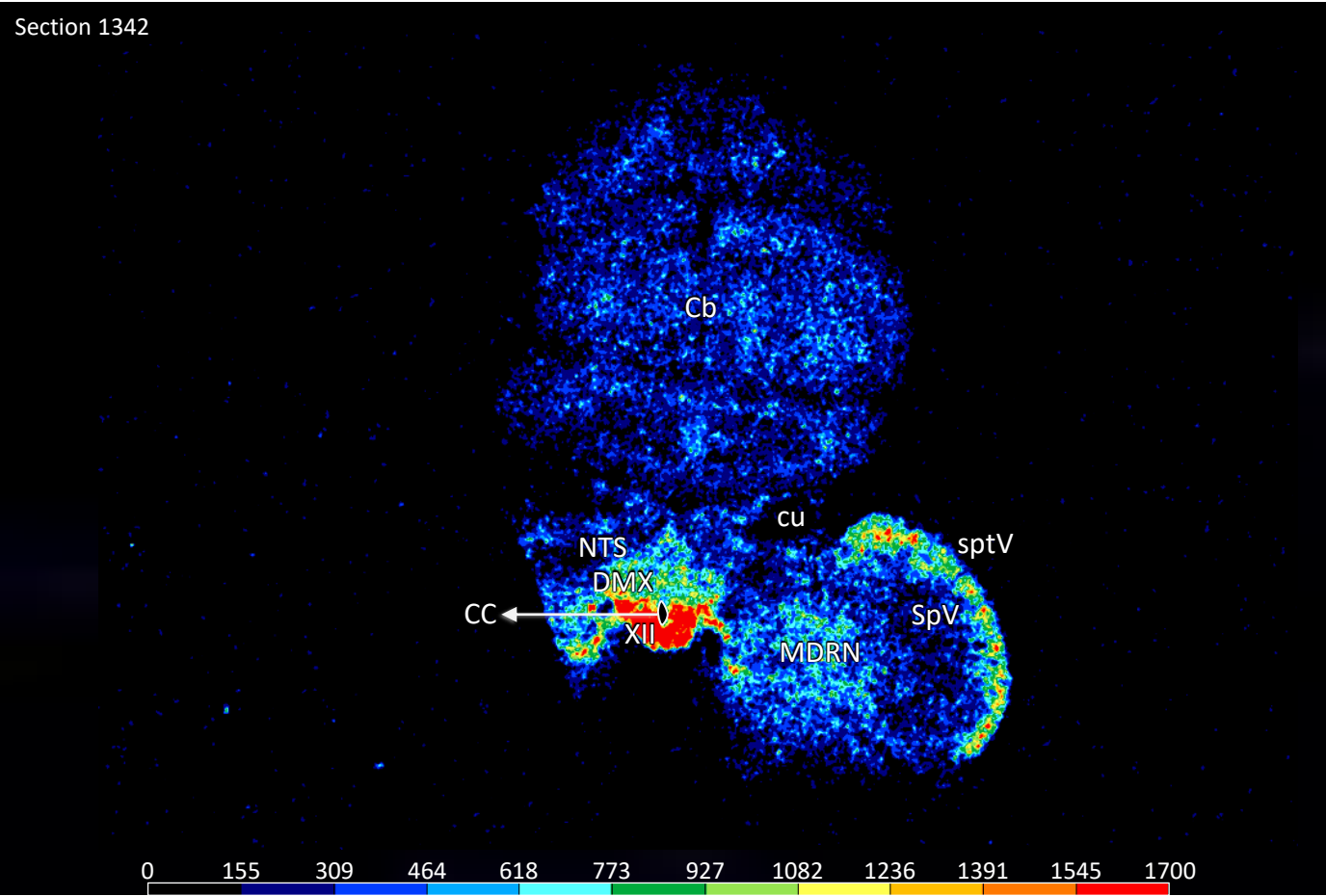
Level c39

Section 1341



500µm

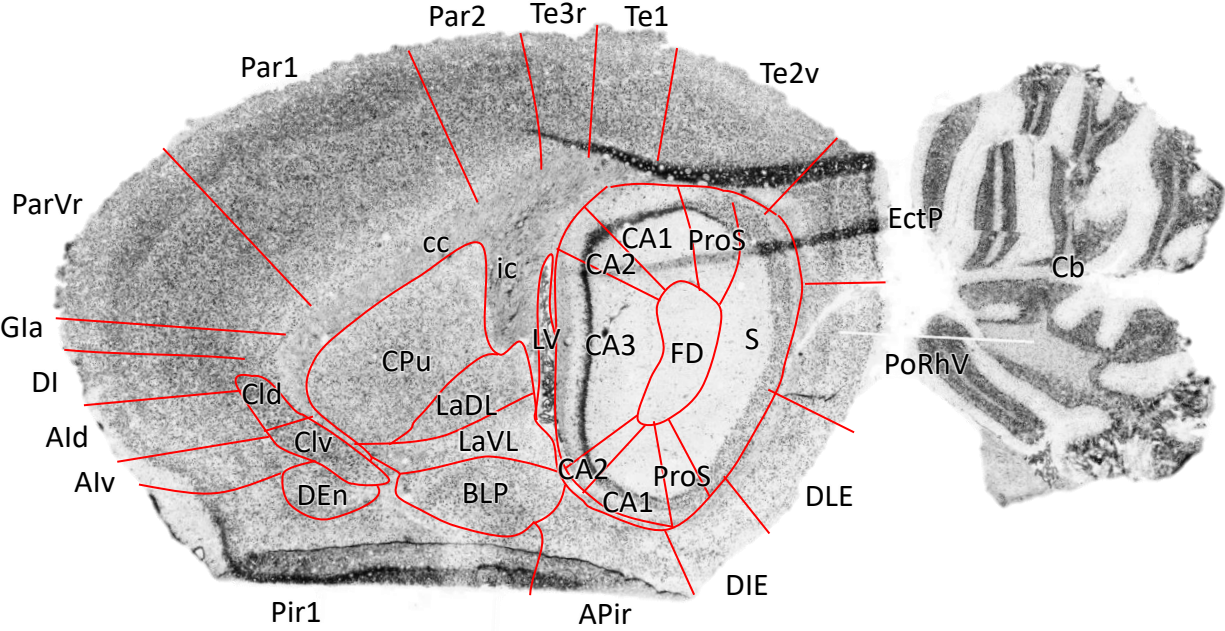
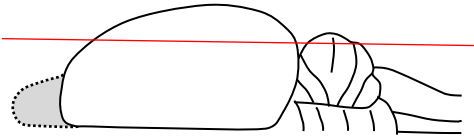
Section 1342



Sagittal series

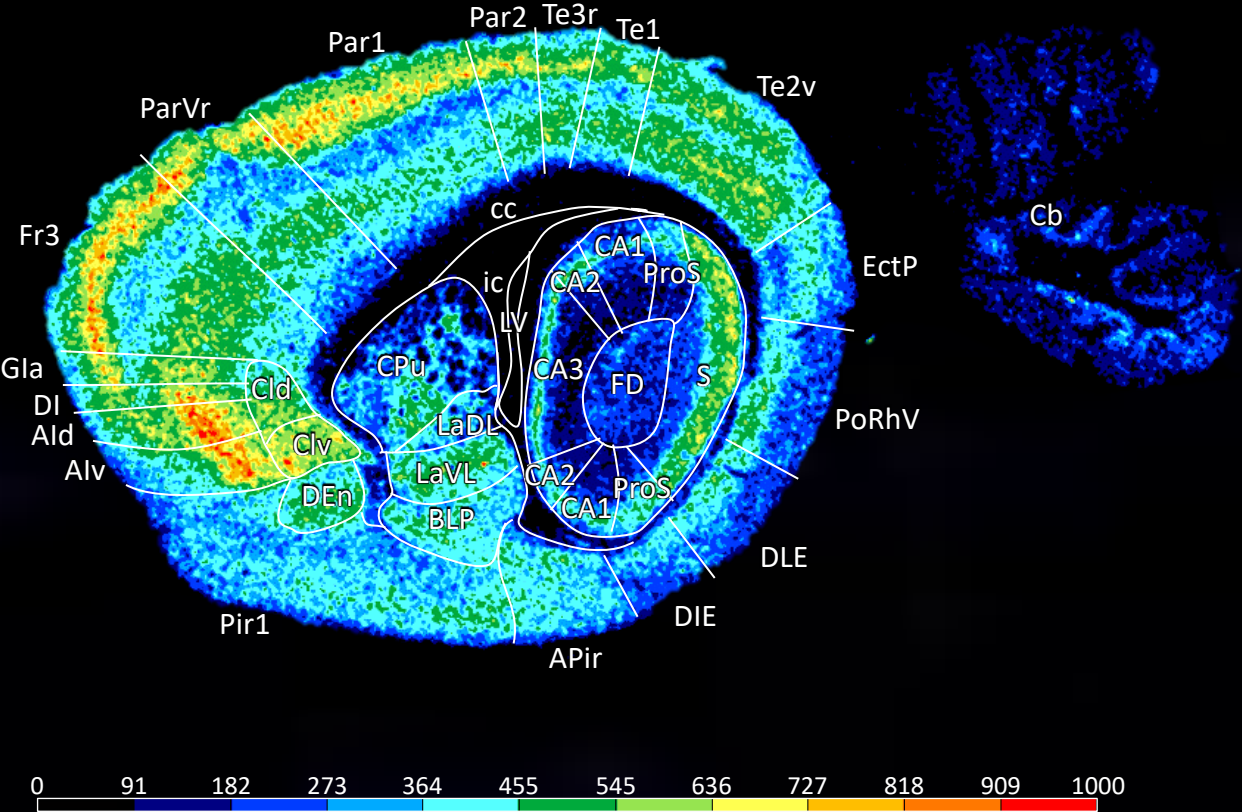
Level s1

Section 93

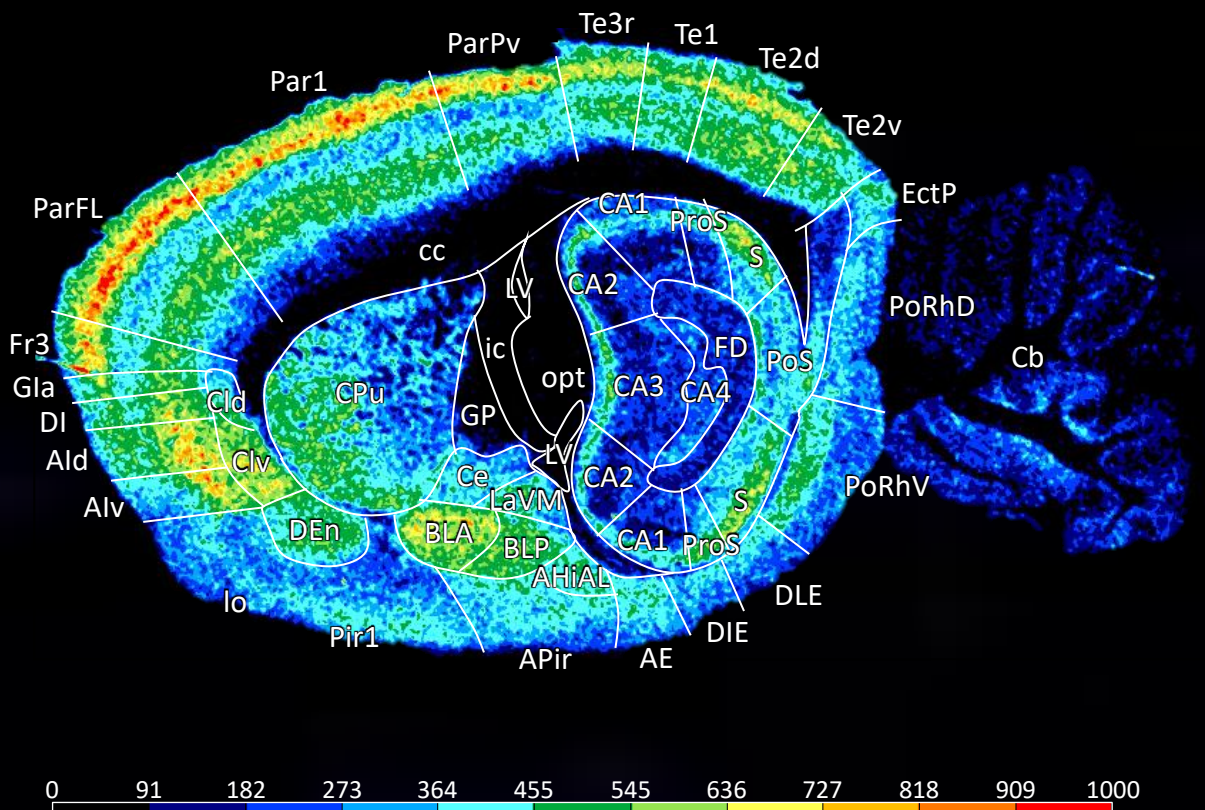


500µm

Section 81



Section 105

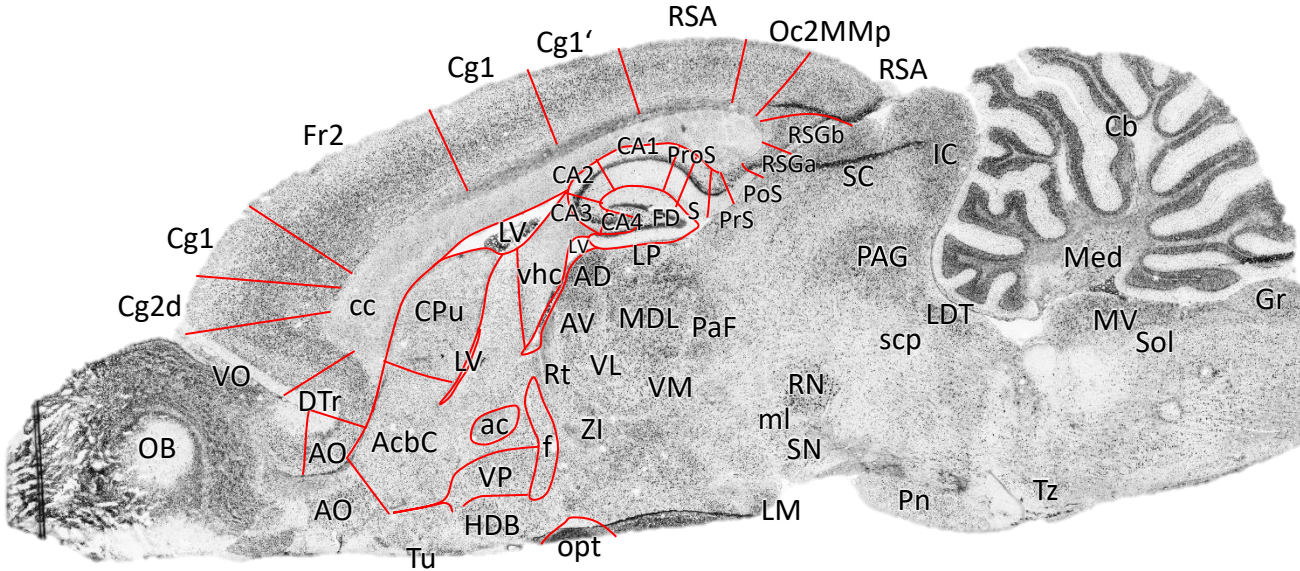
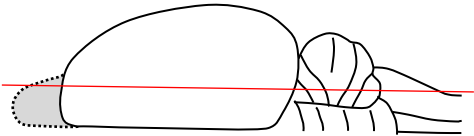


[illegible]

0 91 182 273 364 455 545 636 727 818 909 1000

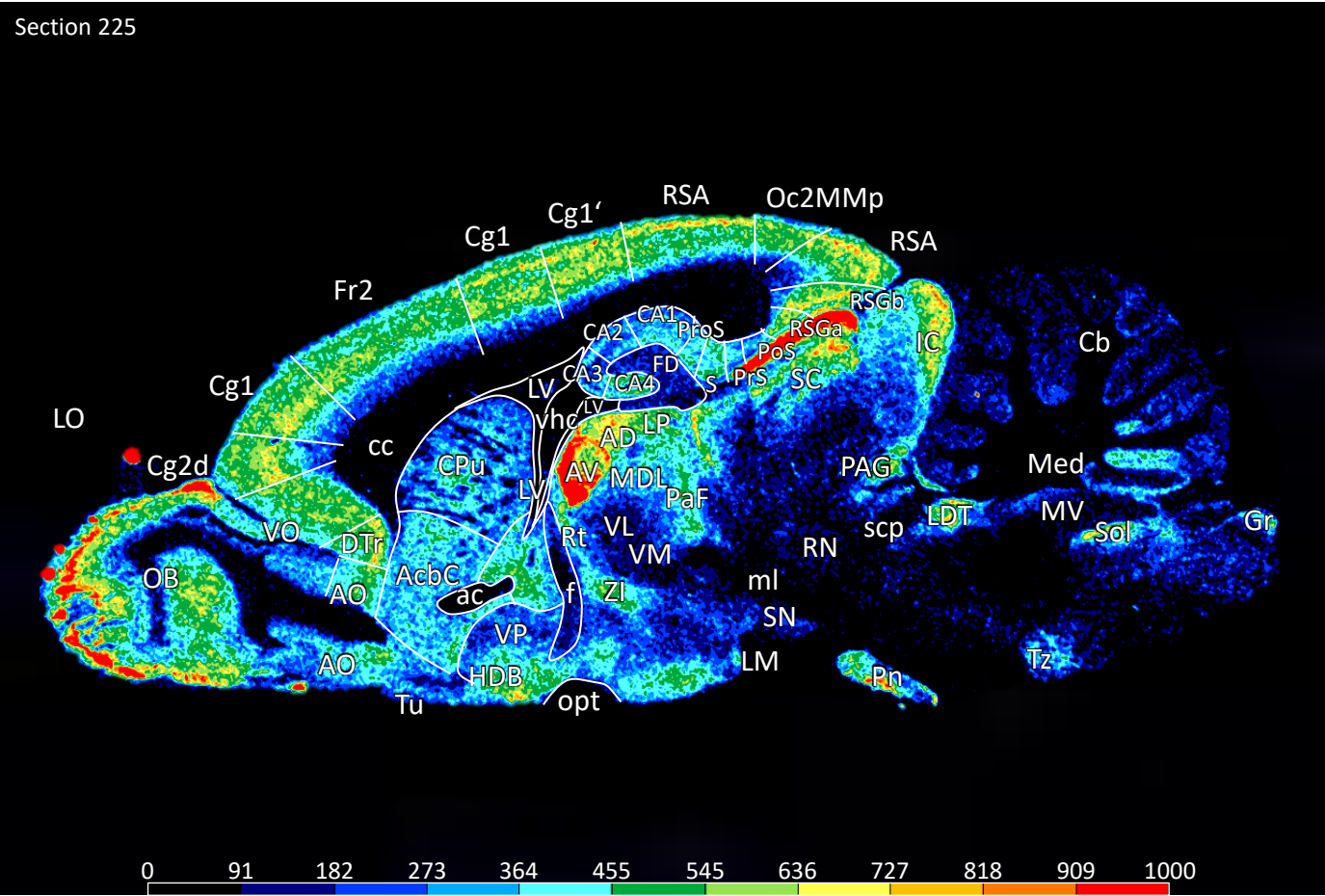
Level s4

Section 237



500µm

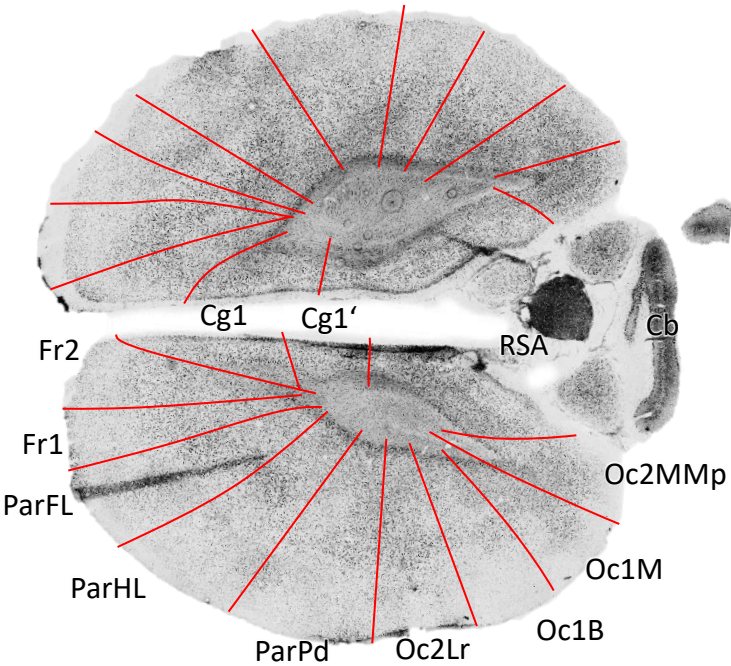
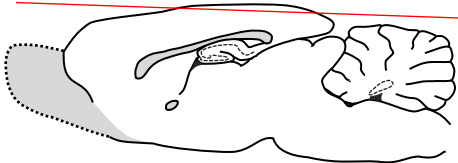
Section 225



Horizontal series

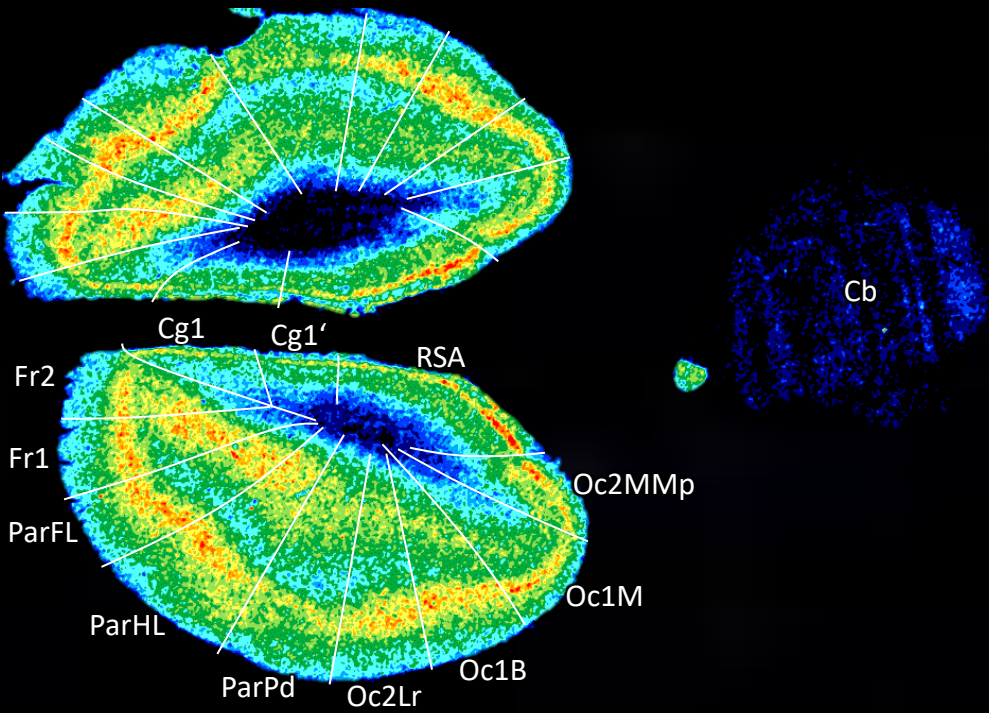
Level h1

Section 45



500µm

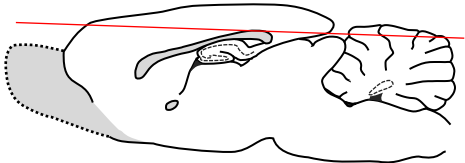
Section 33



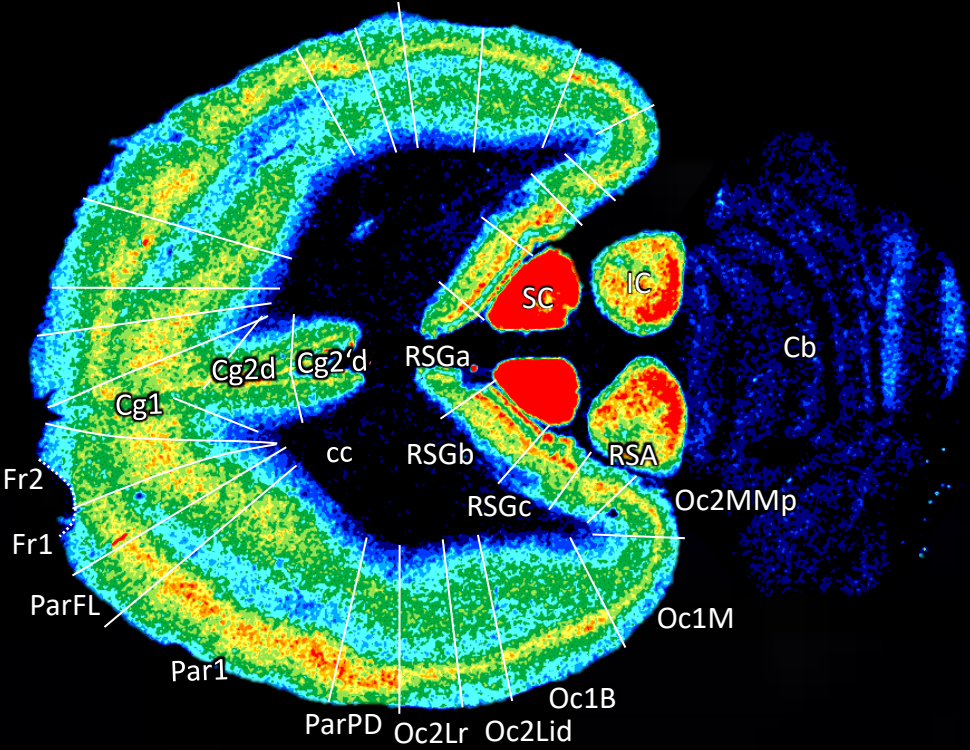
0 91 182 273 364 455 545 636 727 818 909 1000

Level h2

Section

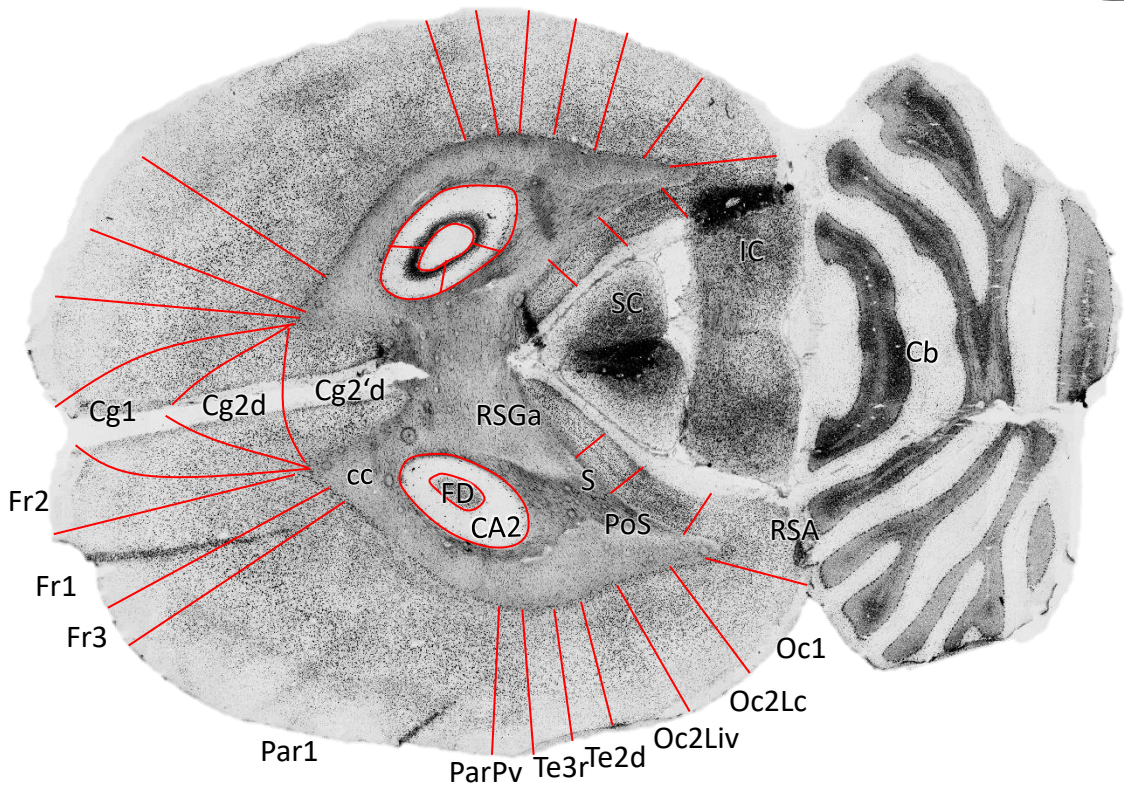
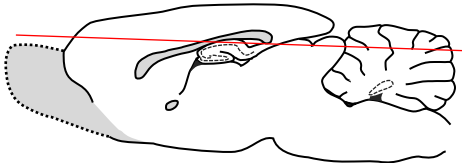


Section 57



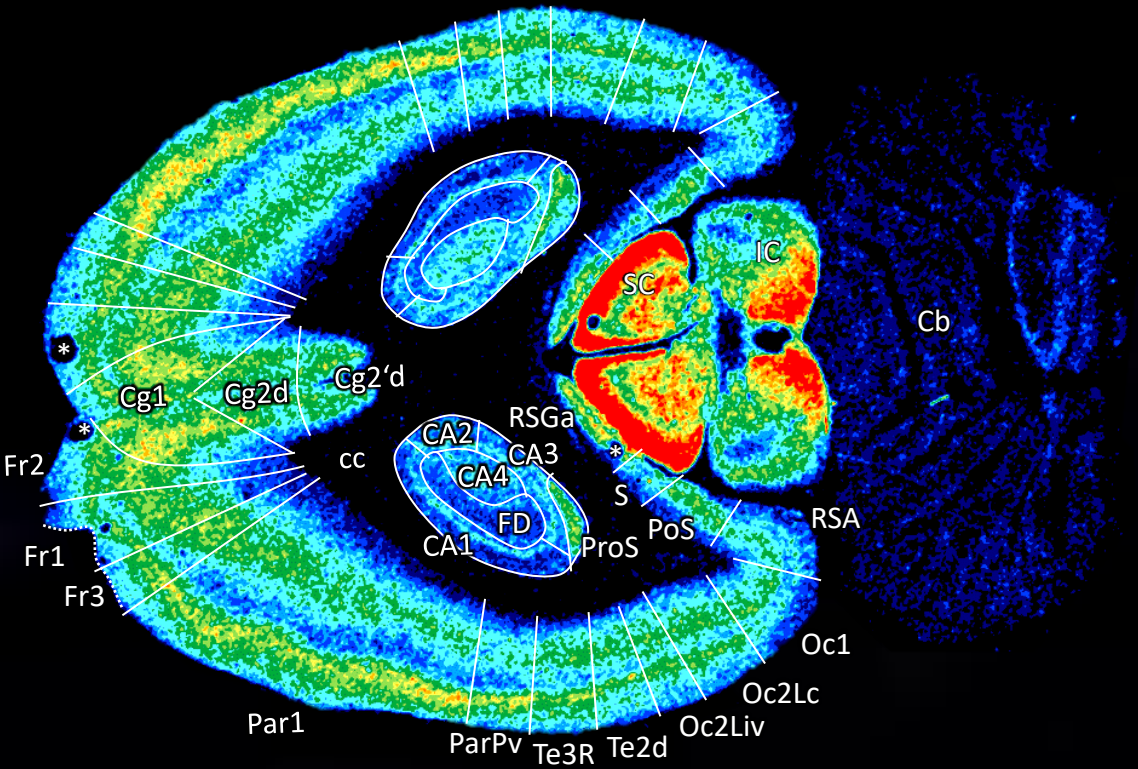
Level h3

Section 69



500μm

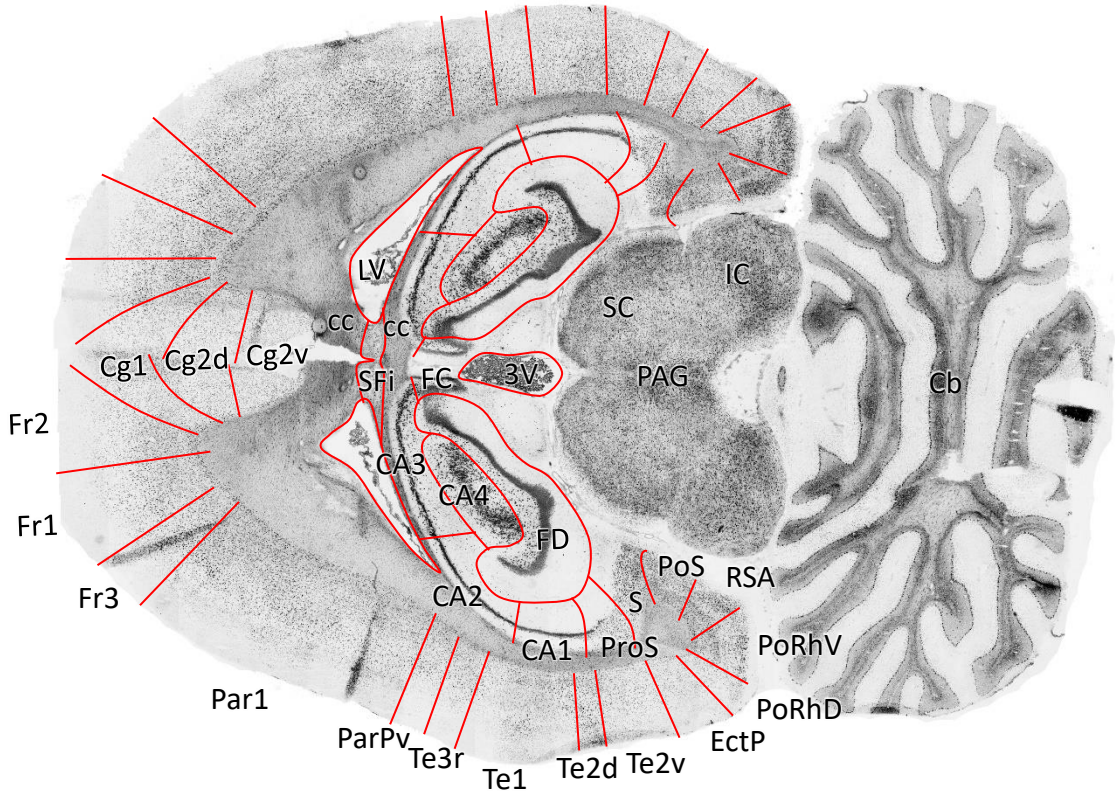
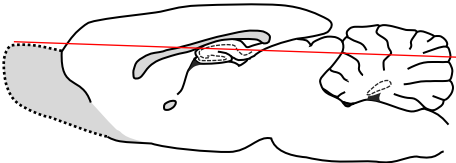
Section 81



0 91 182 273 364 455 545 636 727 818 909 1000

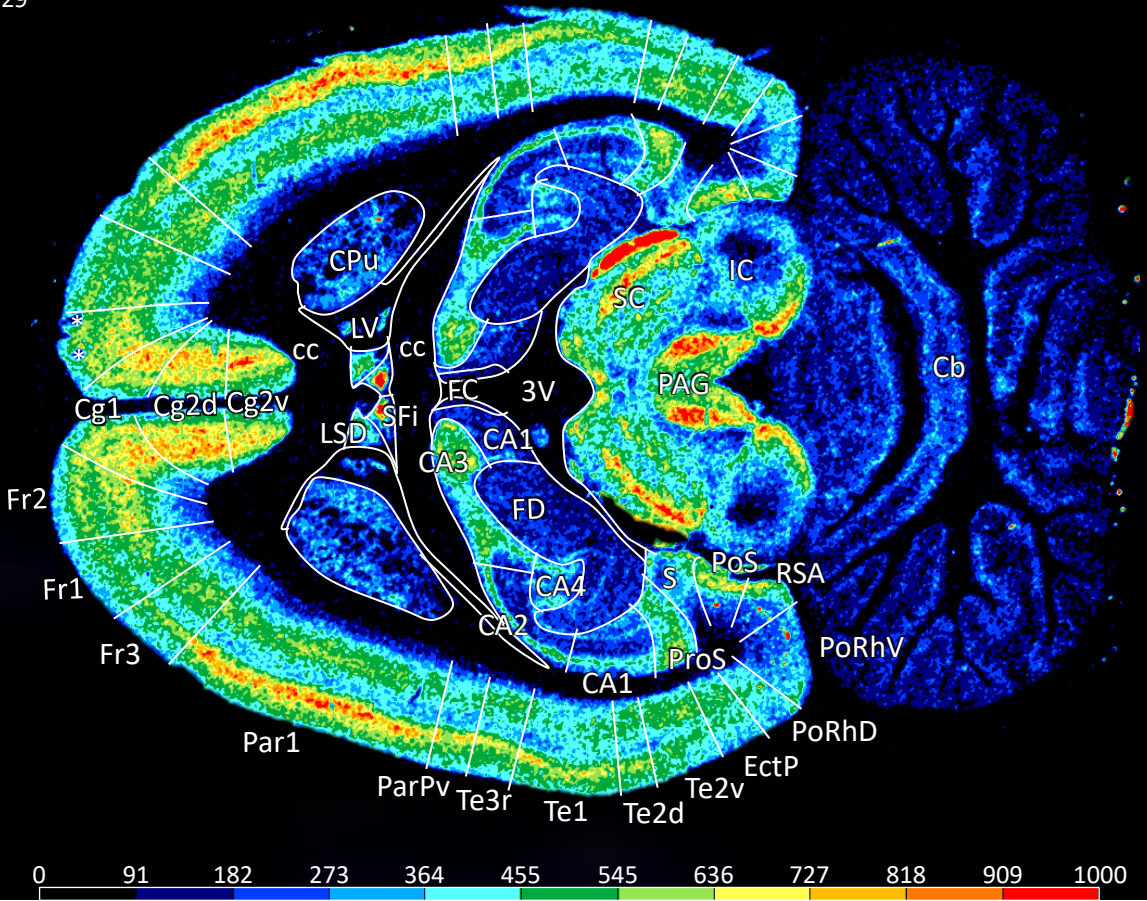
Level h4

Section 117



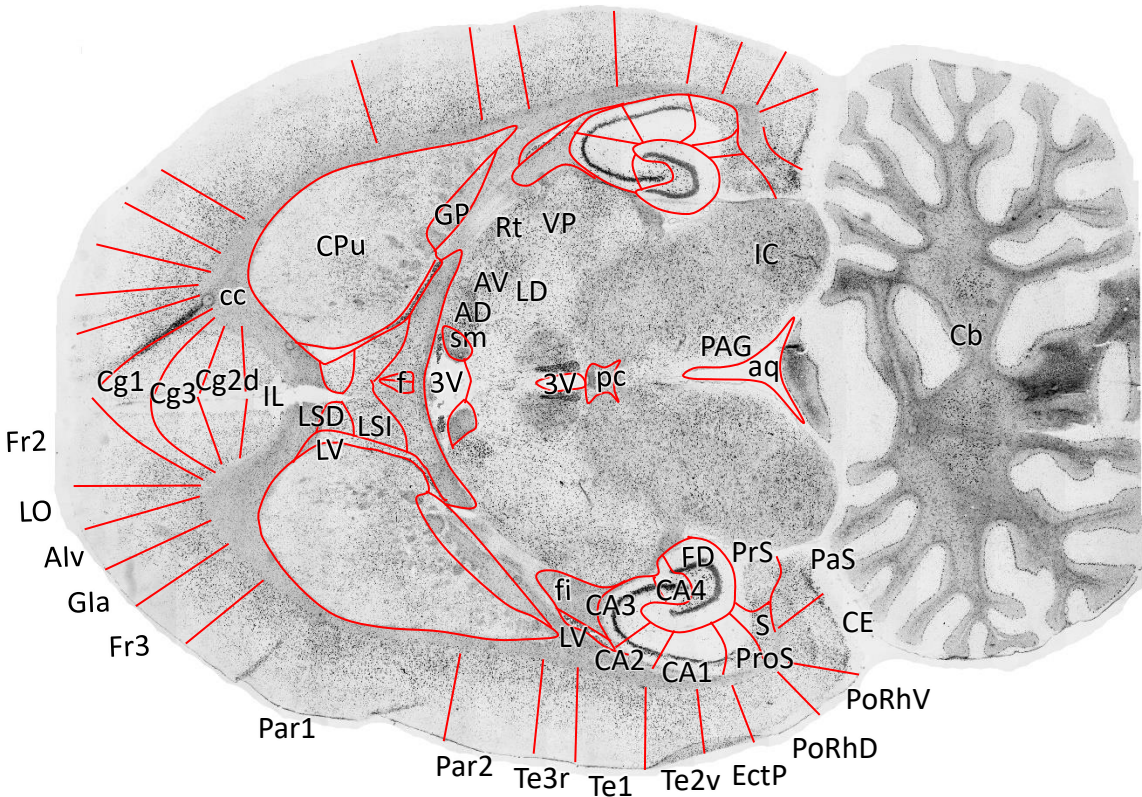
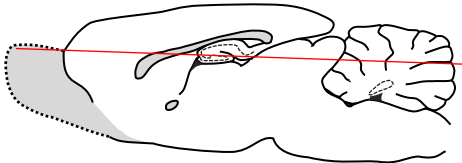
500µm

Section 129



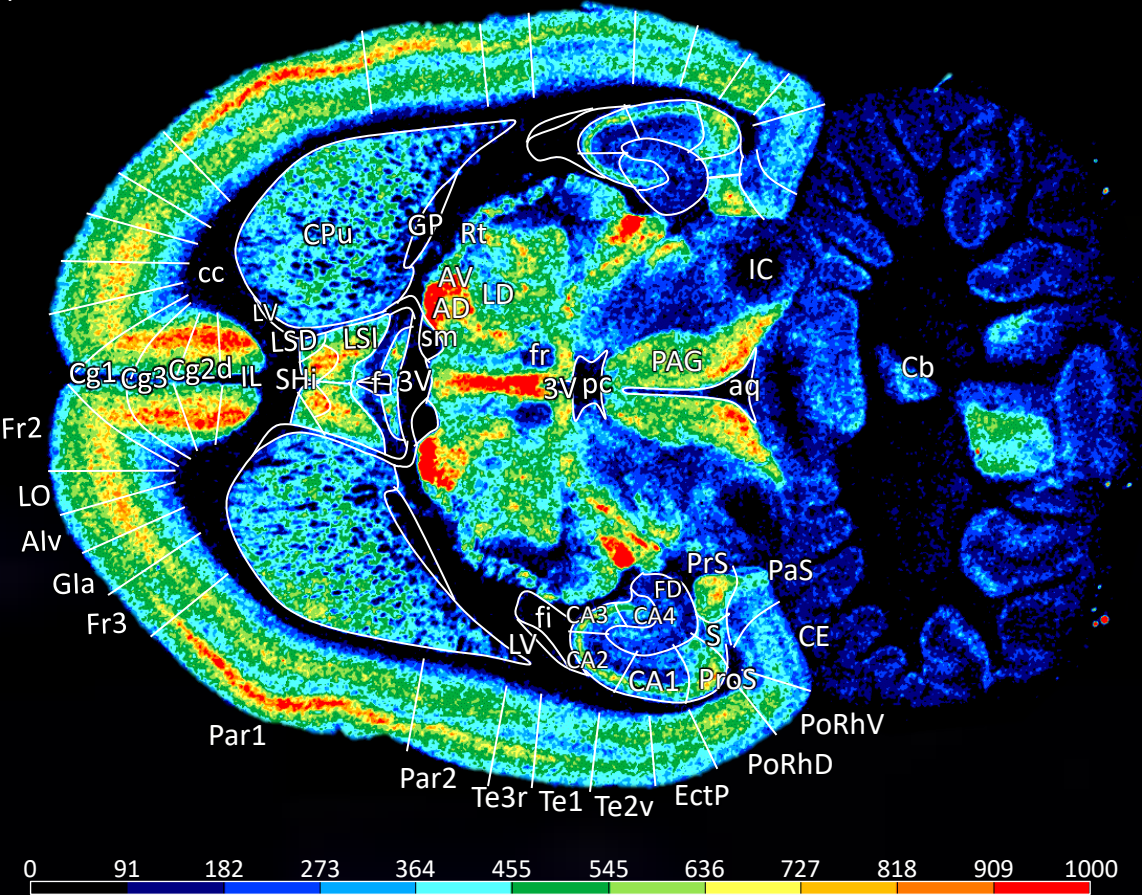
Level h5

Section 165



500µm

Section 177



OB VLO DLO Gla Fr3 Par1 Par2 Te3r Te1 Te3v Te2v EctP PoRhD PoRhV CE PaS PrS FD CA3 CA4 CA2 CA1 S ProS LV fi em pc PAG aq Cb DN Rh MD fr 3v SHi TS LSD MO IL VLP AV GP ic Rt CPu DN

500μm

500μm

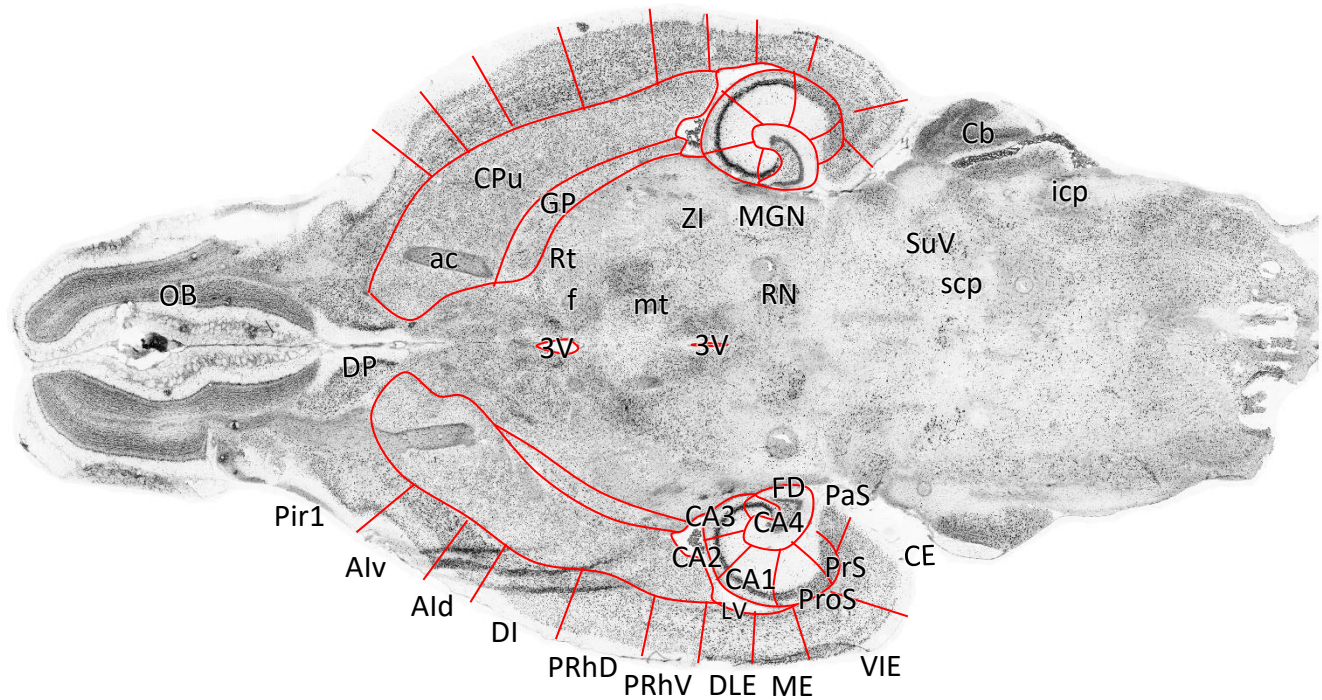
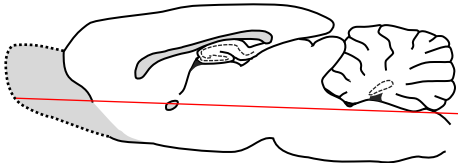
Figure 1 is a coronal section of a rat brain showing the distribution of ^{11}C -PE2I. The image is a PET scan with a color scale from 0 to 1000. Various brain regions are labeled with abbreviations. A color bar at the bottom indicates the intensity scale.

Labels include: OB, VO, VLO, DLO, DI, ParVr, ParVc, Par2, Te3r, Te3v, EctD, Te3v, Te2v, EctP, PO, MO, IL, MS, SHV, LSV, Sm, st, GP, ic, Rt, AV, AD, MD, Rh, fr, ml, ZI, CA3, CA4, CA2, CA1, PrS, S, Pros, CE, PoRhV, PRhD, EctP, mlf, Rt, MG, Cb, Cb, and MG.

Color bar values: 0, 91, 182, 273, 364, 455, 545, 636, 727, 818, 909, 1000.

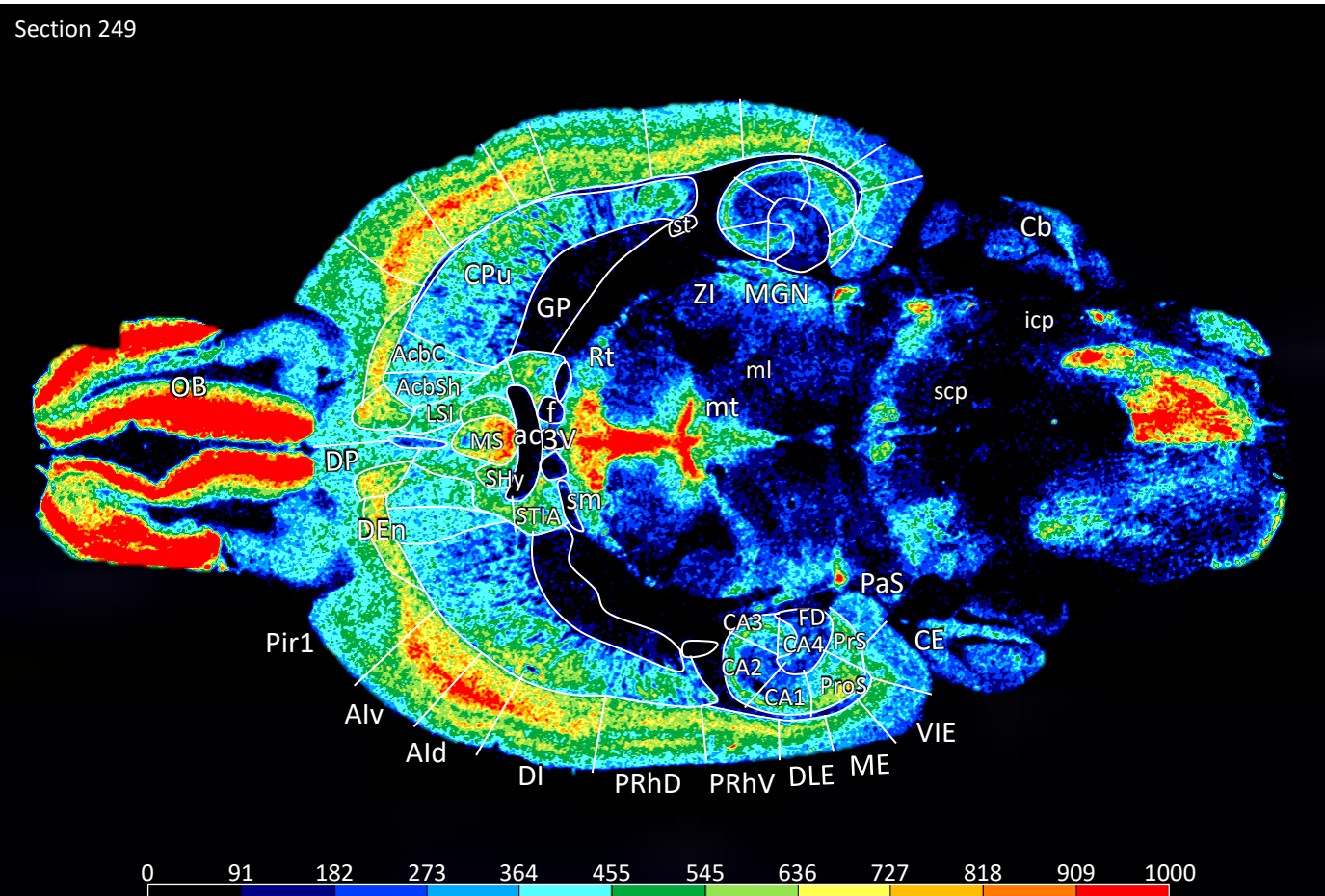
Level h8

Section 261



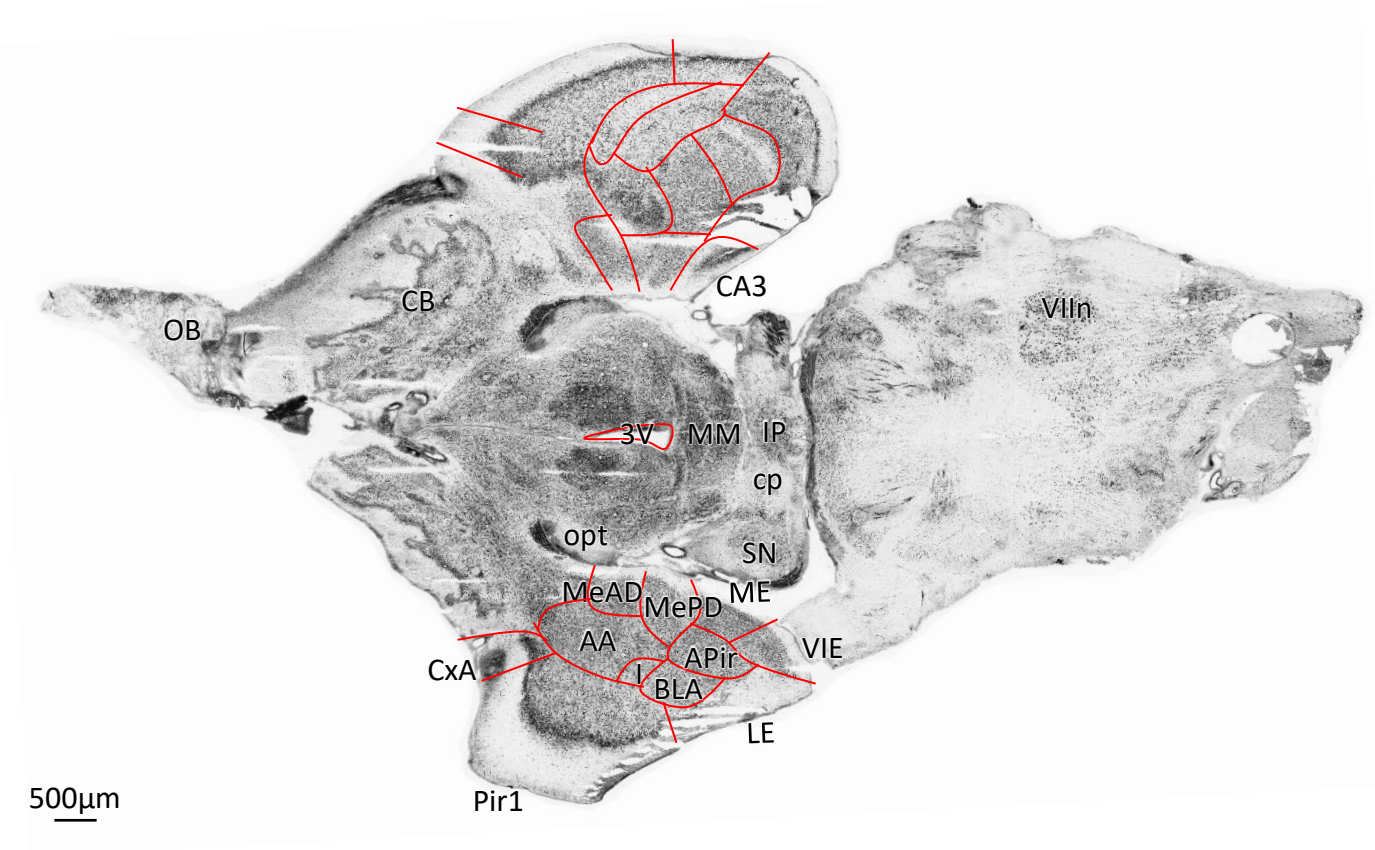
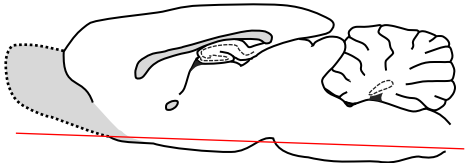
500μm

Section 249



Level h9

Section 285



Section 273

