

ATLAS OF THE DEVELOPING RAT BRAIN IN STEREOTAXIC COORDINATES

P3

Roustem KHAZIPOV, Dilyara ZAYNUTDINOVA, Elena OGIEVETSKY, Olga MITRUKHINA,
Jean-Bernard MANENT, Alfonso REPRESA

INMED, INSERM U-901 & Aix-Marseille University, Marseille, France
Laboratory of Neurobiology, Kazan Federal University, Kazan, Russia

Atlas presents a series of microphotographs of coronal 200 micron brain sections of a P3 Wistar rat (weight 9.4 g). Sections were cut vertical to the horizontal plane extending from bregma to lambda. Therefore using this atlas requires position of the rat head with bregma and lambda adjusted to the same height. Sections at bregma and lambda levels are marked with Dil-trace. Additional Dil trace across the whole brain was used to control slicing vertical to the horizontal plane. Sections were prepared from the paraformaldehyde and glutaraldehyde fixed brains through vibroslicing. No coloration was used. Microphotographs were made from the wet sections in oblique light. Atlas starts with a list of abbreviations and an outline of the brain view from above.

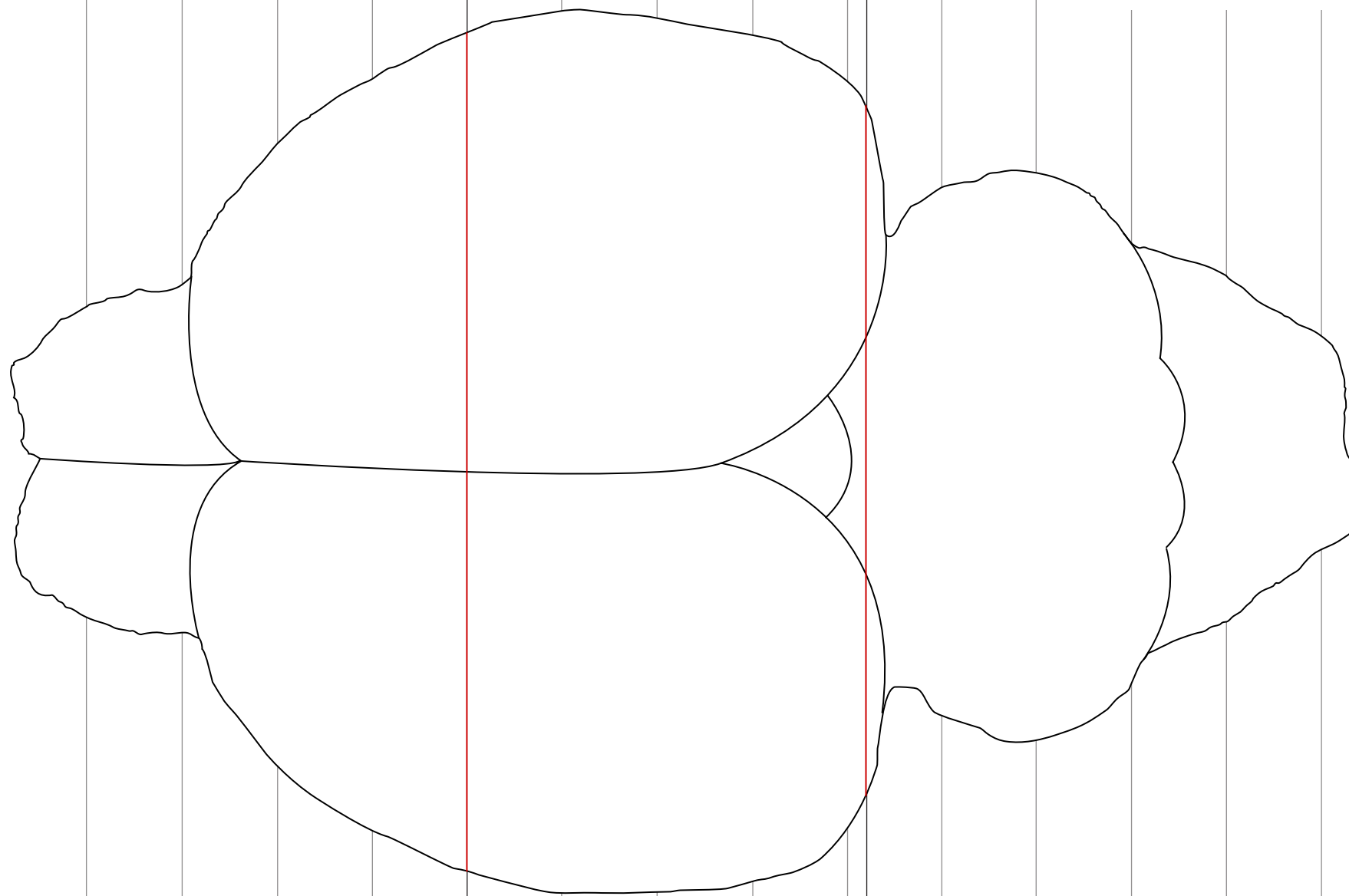
For additional information see (reference to the Frontiers in Neuroanatomy data report).

List of Structures

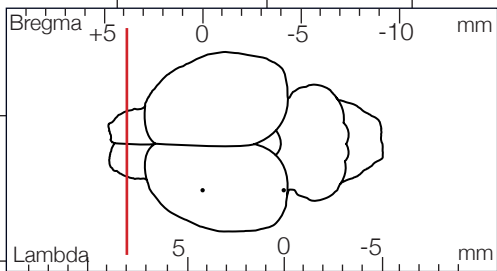
3V	3rd Ventricle	F	Frontal cortex	ox	optic chiasma
4V	4th Ventricle	g7	genu of facial nerve	opt	optic tract
Acb	Accumbens nu	Hb	Habenula	O	Orbital cortex
Aq	Aqueduct Sylvius	H	Hilus	PB	Parabraquial nu
Am	Ambiguous nu	12	hypoglossal nucleus	Par	Parietal cortex
A	Amygdala	hypo	hypothalamus	PAG	Periaqueductal Gray
ac	anterior commissure	icp	inferior cerebellar peduncle	Pir	Piriform cortex
Arc	Arcuate hypothalamic nu	IC	Inferior Colliculus	Pn	Pontine nu
Au	Auditory cortex	IO	Inferior Olive	PnR	Pontine Raphe nu
BL	Basolateral amygdala nu	ic	internal capsule	pc	posterior commissure
CA1	CA1	IPR	Interpeduncular nu	M1	primary Motor cortex
CA3	CA3	La	Lateral amygdala nu	py	pyramidal tract
CPu	Caudate Putamen	lo	lateral olfactory tract	RM	Raphe Magnus nu
CC	Central Canal	LSD	Lateral Septal Dorsal nu	RS	Retrosplenial cortex
cp	cerebral peduncle	LSI	Lateral Septum Intermediate	rf	rhinal fissure
Cg	Cingulate cortex	LT	Lateral Thalamus	s5	sensory root trigeminus
Cl	Clastrum	LV	Lateral Ventricle	Sol	Solitary nu
cc	corpus callosum	LC	Locus Coeruleus	S1	Somatosensory 1
Cnf	Cuneiform nu	mt	mamillothalamic tract	S1BF	Somatosensory 1 Barrel Field
DG	Dentate Gyrus	MG	Medial Geniculate nu	S	Subiculum
DB	Diagonal Band	MR	Medial Raphe nu	SN	Substantia Nigra
DR	Dorsal Raphe nu	MS	Medial Septal nu	SNC	Substantia Nigra Compacta
DLG	Dorso Lateral Geniculate	Me5	Mesencephalic trigemic nu	SNR	Substantia Nigra Reticulata
End	Endopyriform nu	mcp	middle cerebellar peduncle	STh	Subthalamic nu
Ent	Entorhinal cortex	M	Motor cortex	scp	superior cerebellar peduncle
7n	Facial nerve	M2	Motor cortex	SC	Superior Colliculus
7	Facial nu	m5	motor root trigeminus	SCh	Suprachiasmatic nu
fi	fimbria	3	oculomotor n	VT	Ventral Thalamus
f	fornix	OB	Olfactory Bulb	VLG	Ventro Lateral Geniculate nu
		ON	Olfactory Nu	Vi	Visual cortex
		Tu	olfactory Tubercle		

mm 6 5 4 3 2 1 0 Bregma -1 -2 -3 -4 Lambda -5 -6 -7 -8 -9 mm

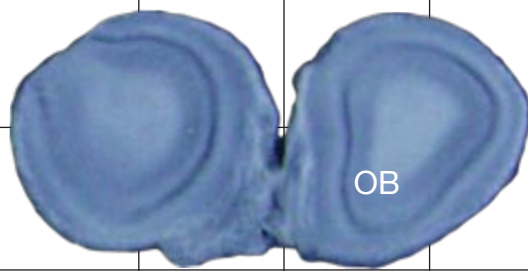
Rat P3
weight (g) - 9.40



mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



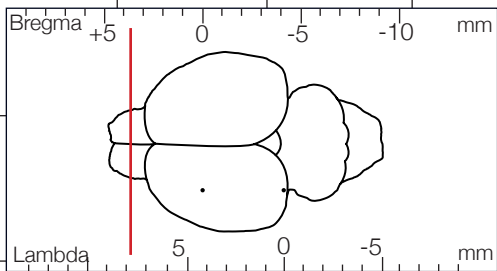
Rat P3 Figure 5



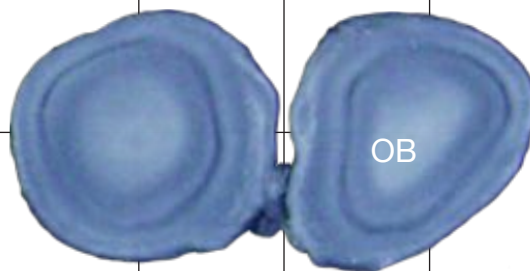
Bregma 3.80 mm
Lambda 8.00 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



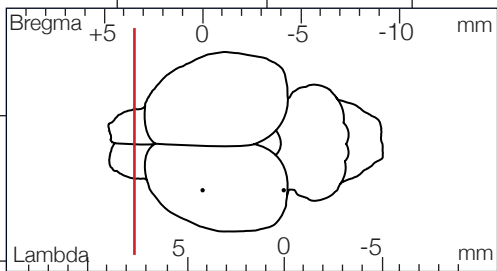
Rat P3 Figure 6



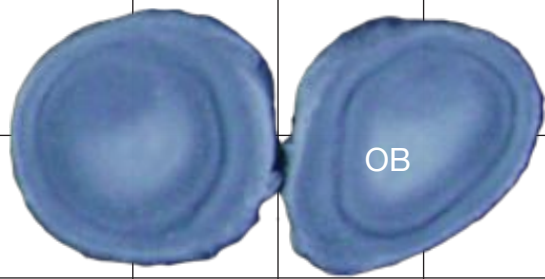
Bregma 3.60 mm
Lambda 7.80 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



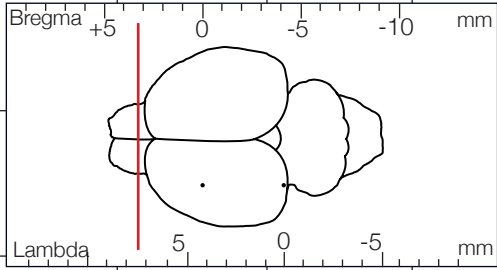
Rat P3 Figure 7



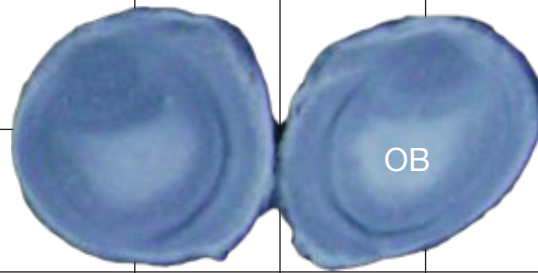
Bregma 3.40 mm
Lambda 7.60 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



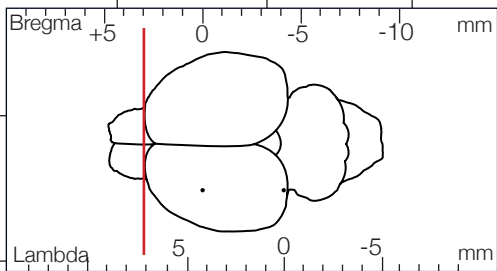
Rat P3 Figure 8



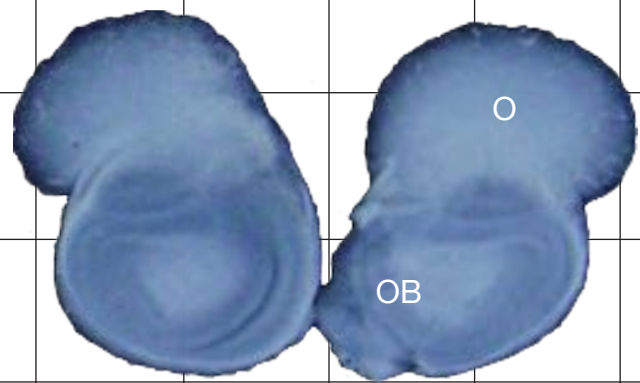
Bregma 3.20 mm
Lambda 7.40 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



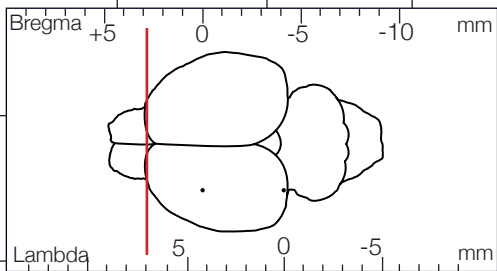
Rat P3 Figure 9



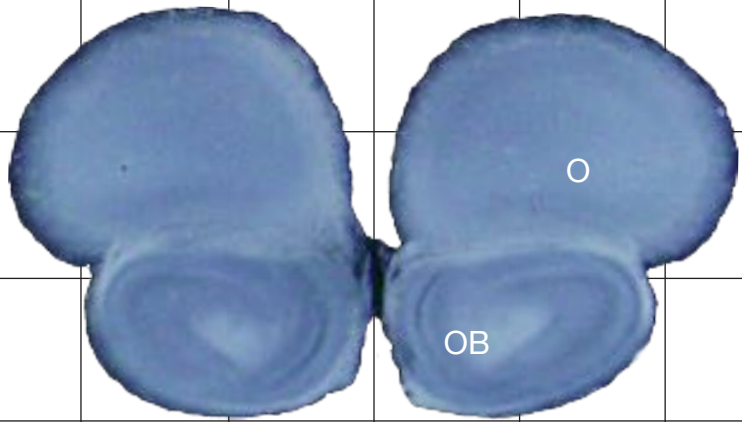
Bregma 3.00 mm
Lambda 7.20 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



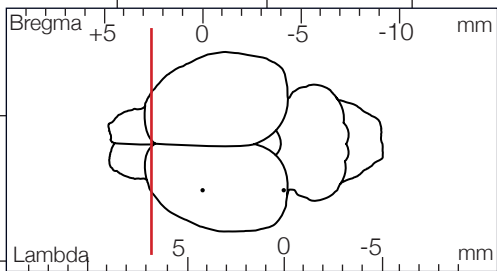
Rat P3 Figure 10



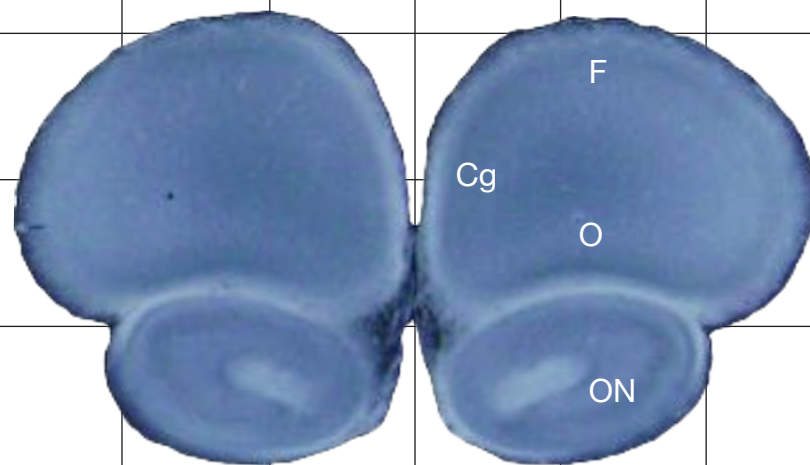
Bregma 2.80 mm
Lambda 7.00 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



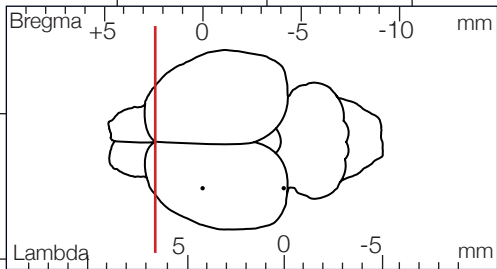
Rat P3 Figure 11



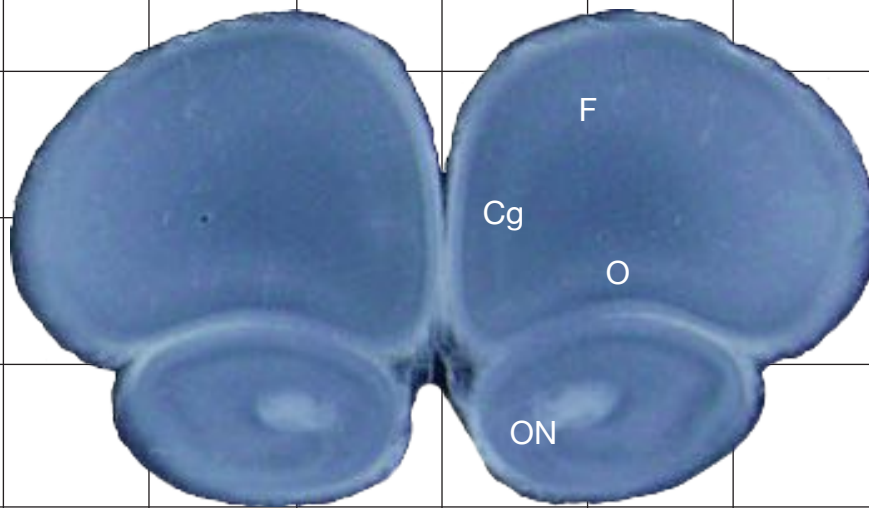
Bregma 2.60 mm
Lambda 6.80 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



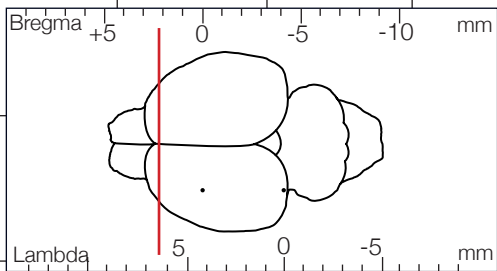
Rat P3 Figure 12



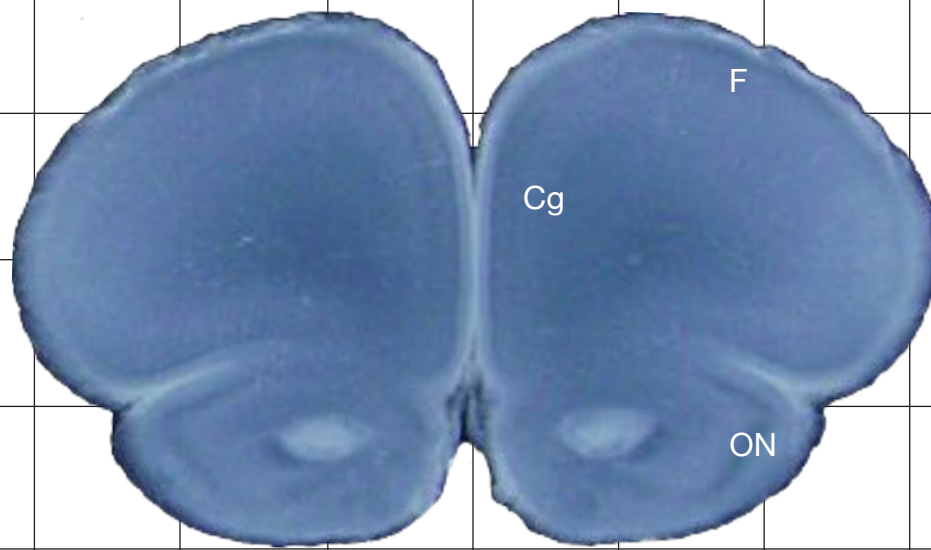
Bregma 2.40 mm
Lambda 6.60 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



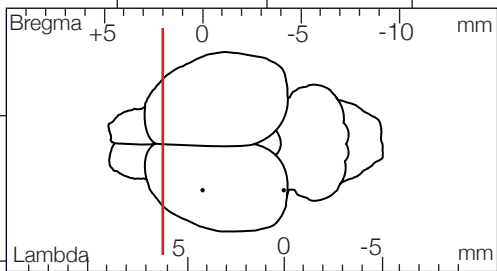
Rat P3 Figure 13



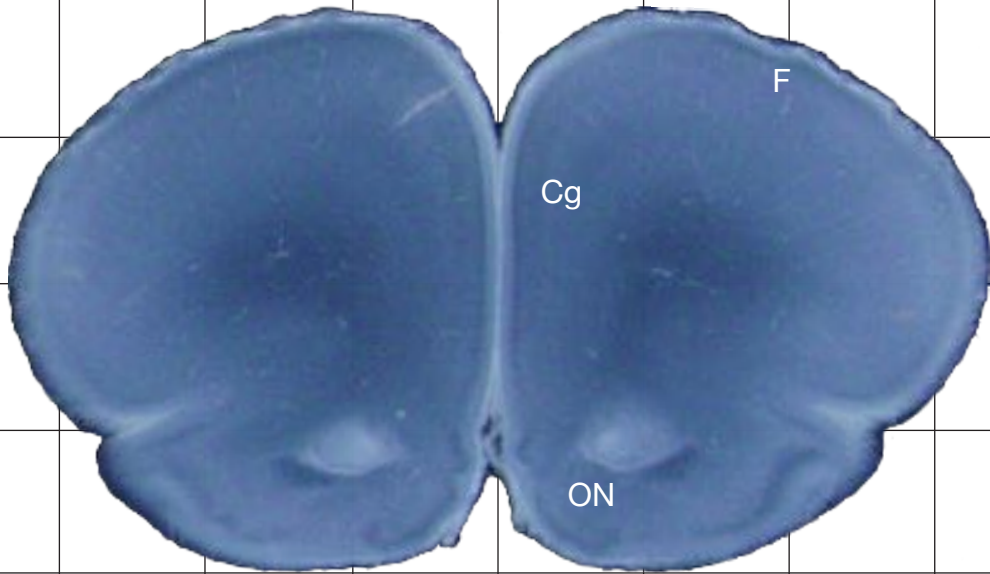
Bregma 2.20 mm
Lambda 6.40 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



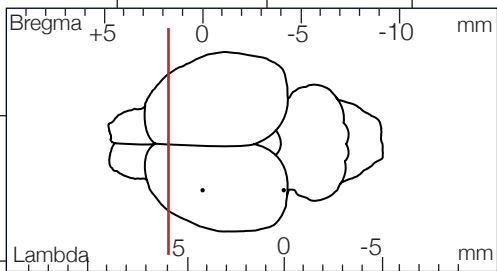
Rat P3 Figure 14



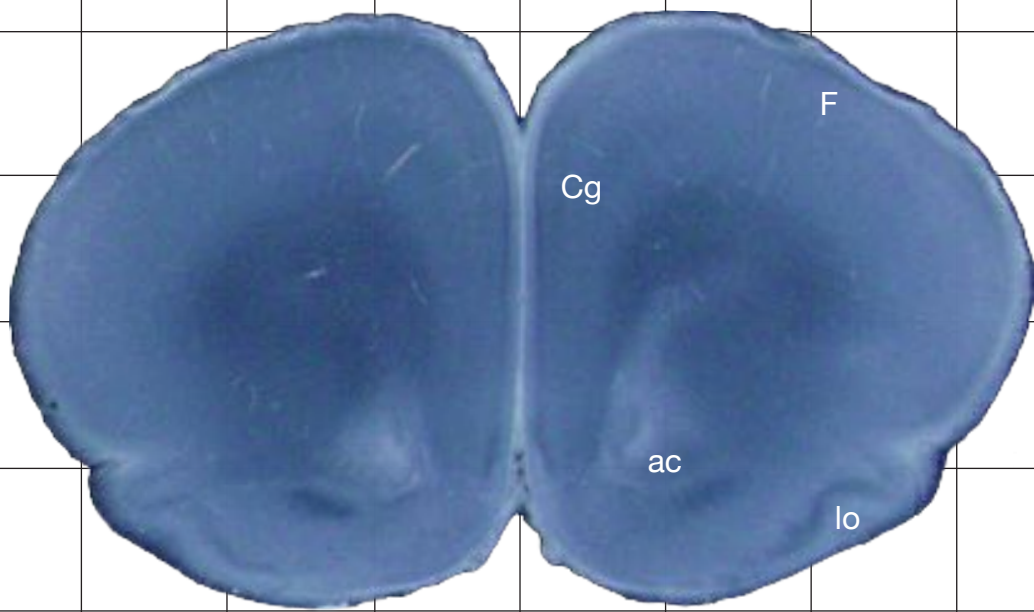
Bregma 2.00 mm
Lambda 6.20 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



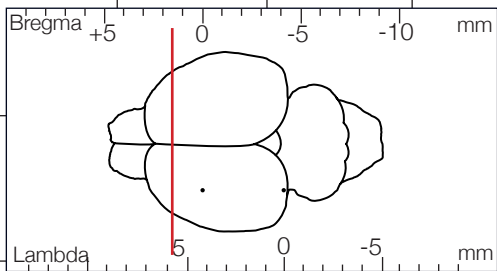
Rat P3 Figure 15



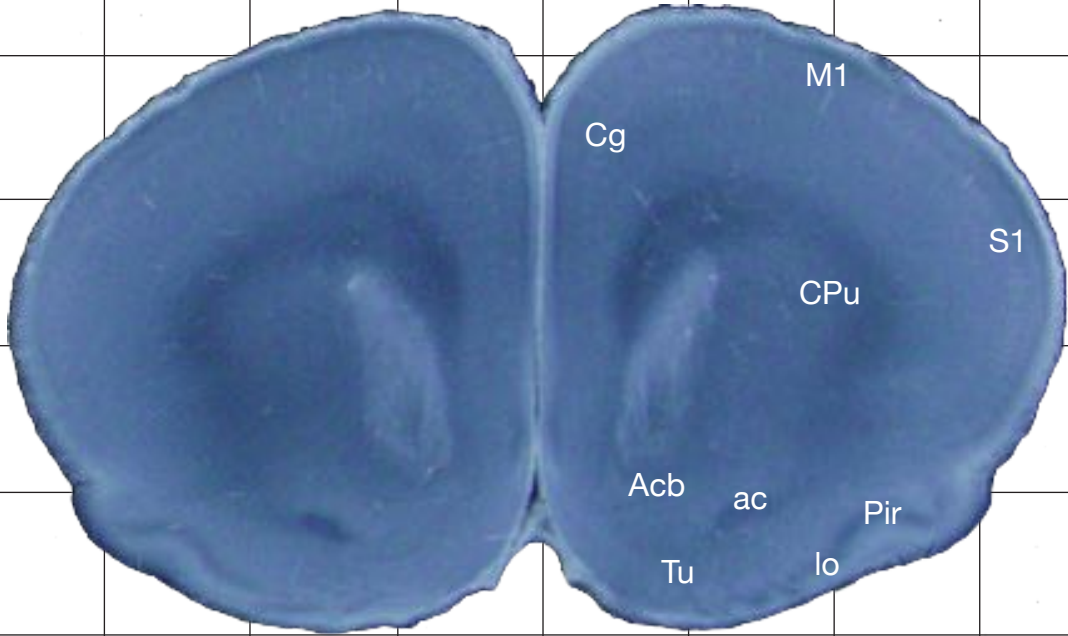
Bregma 1.80 mm
Lambda 6.00 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



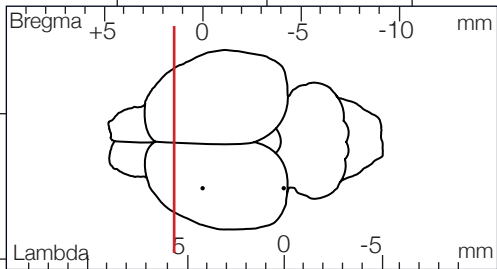
Rat P3 Figure 16



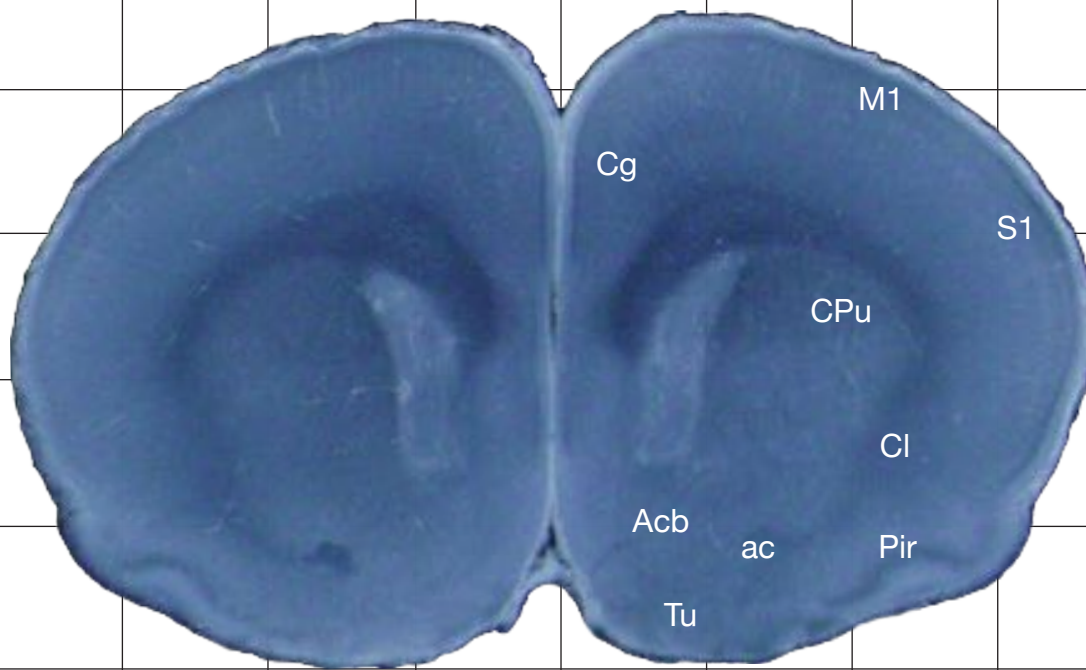
Bregma 1.60 mm
Lambda 5.80 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



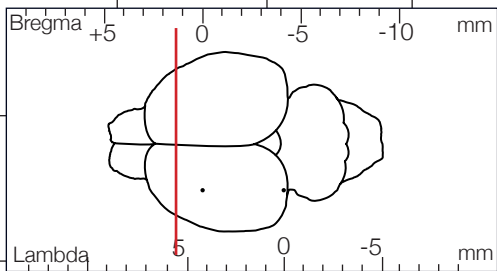
Rat P3 Figure 17



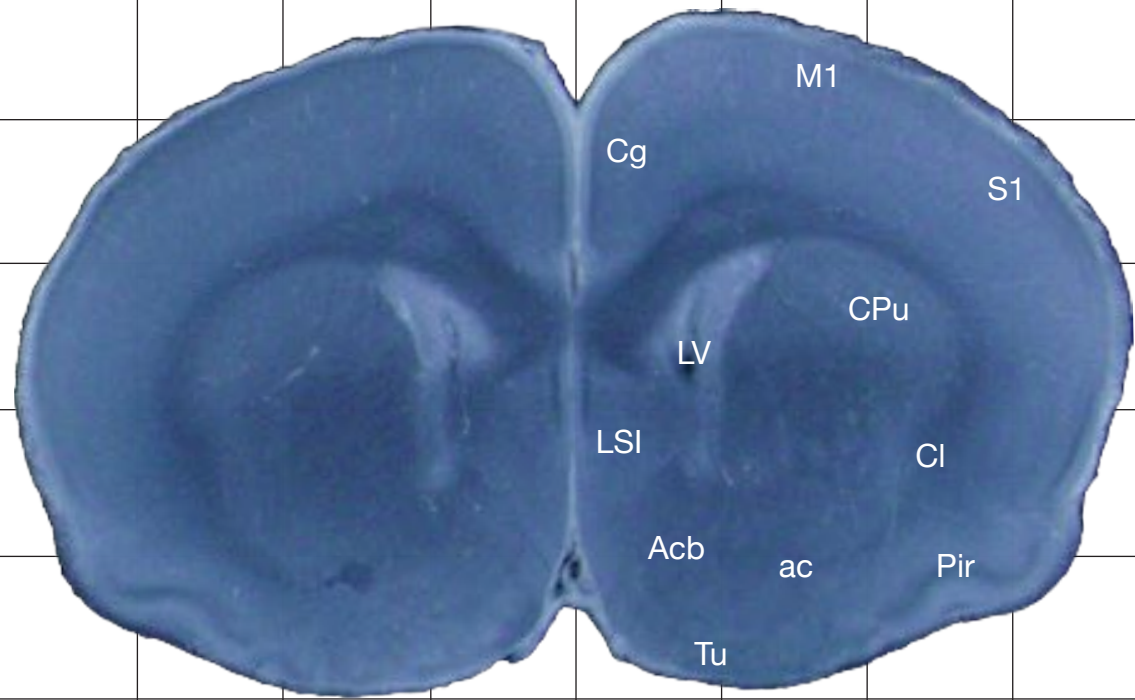
Bregma 1.40 mm
Lambda 5.60 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



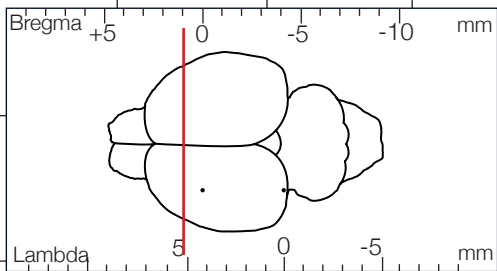
Rat P3 Figure 18



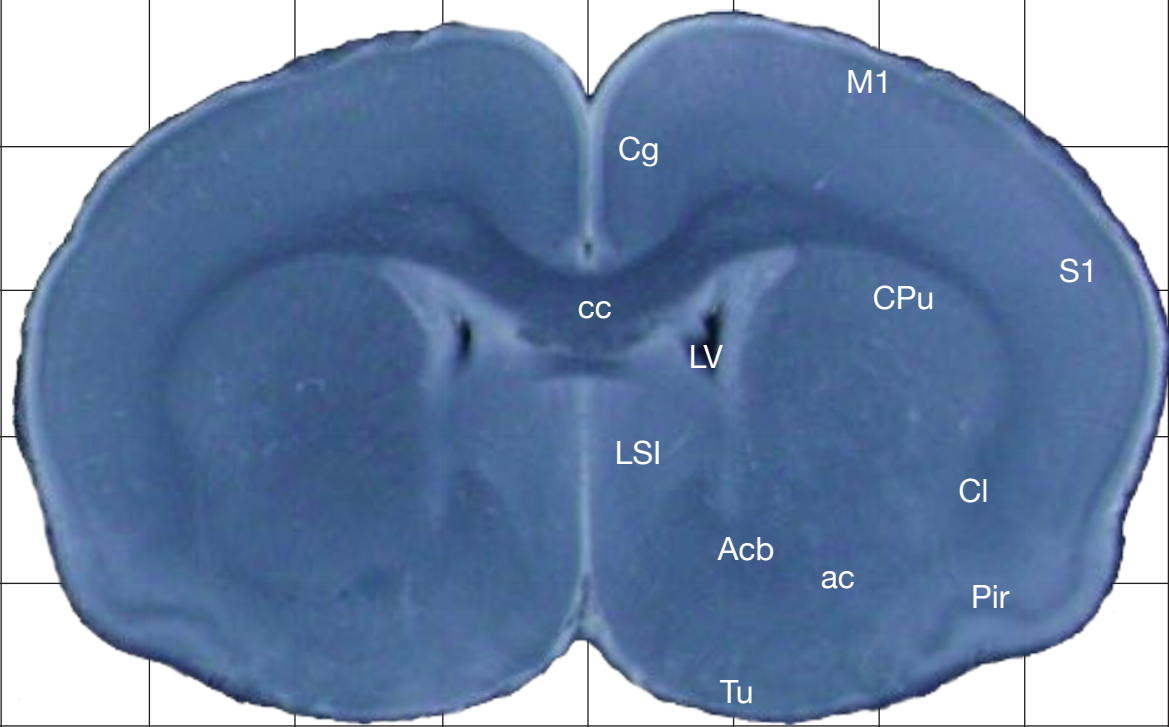
Bregma 1.20 mm
Lambda 5.40 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



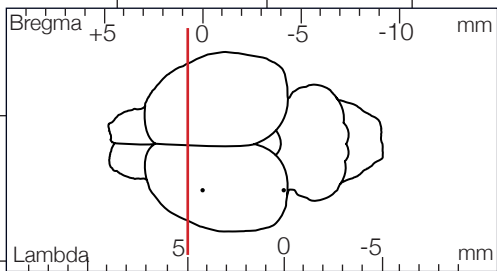
Rat P3 Figure 19



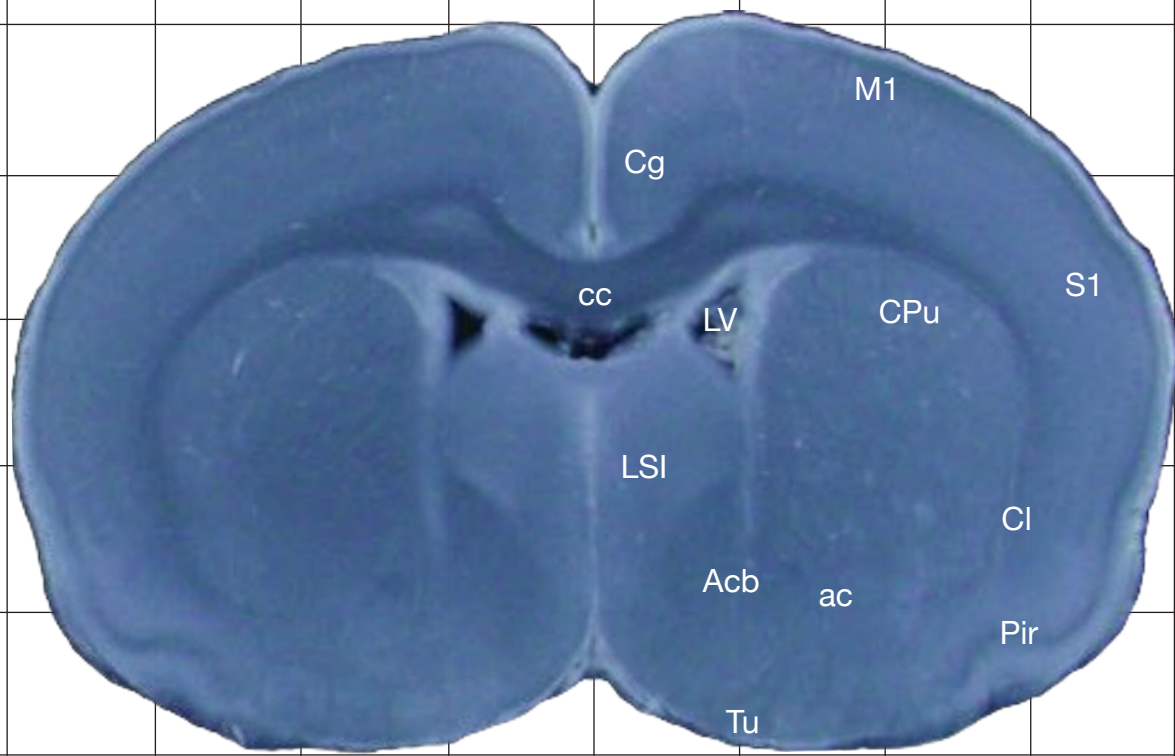
Bregma 1.00 mm
Lambda 5.20 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



Rat P3 Figure 20

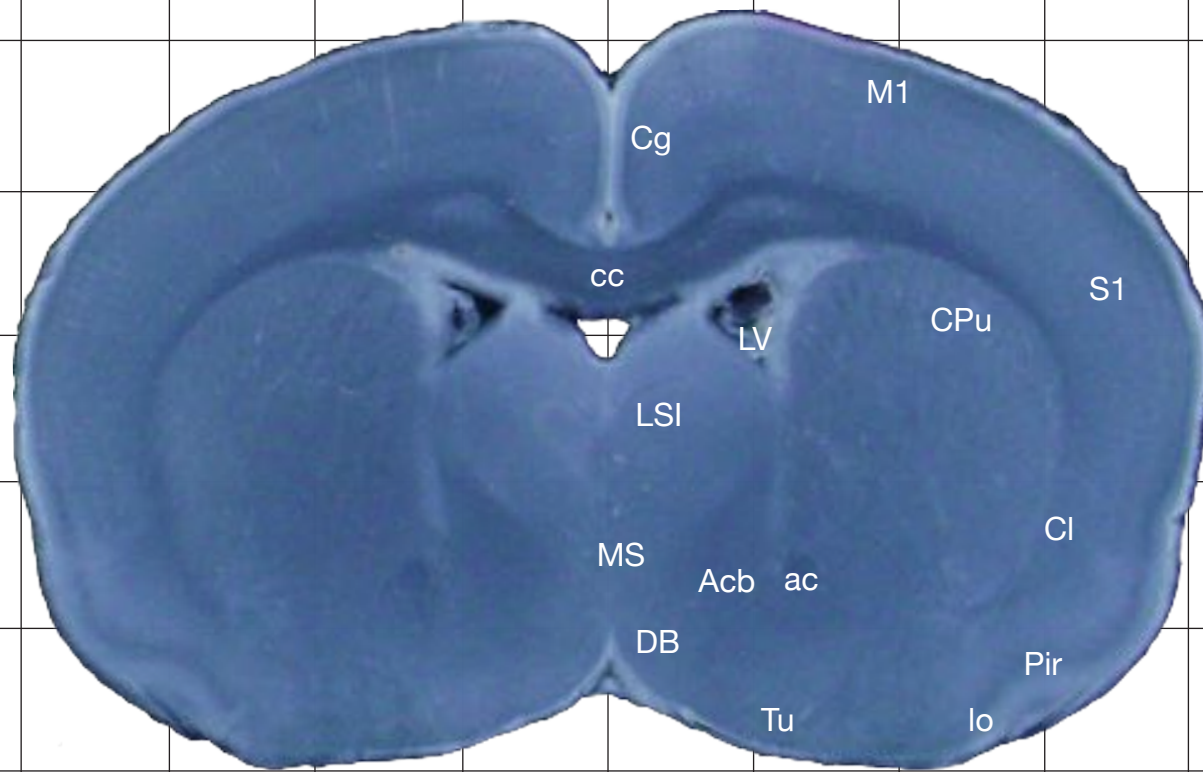
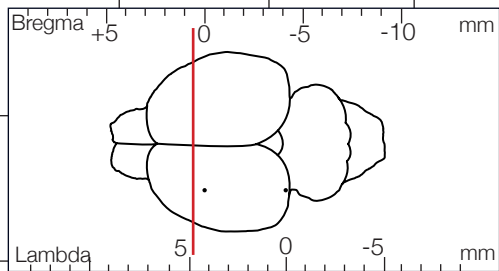


Bregma 0.80 mm
Lambda 5.00 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

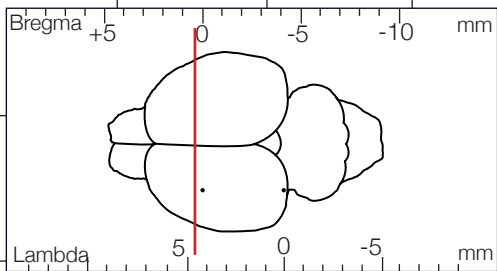
Rat P3 Figure 21



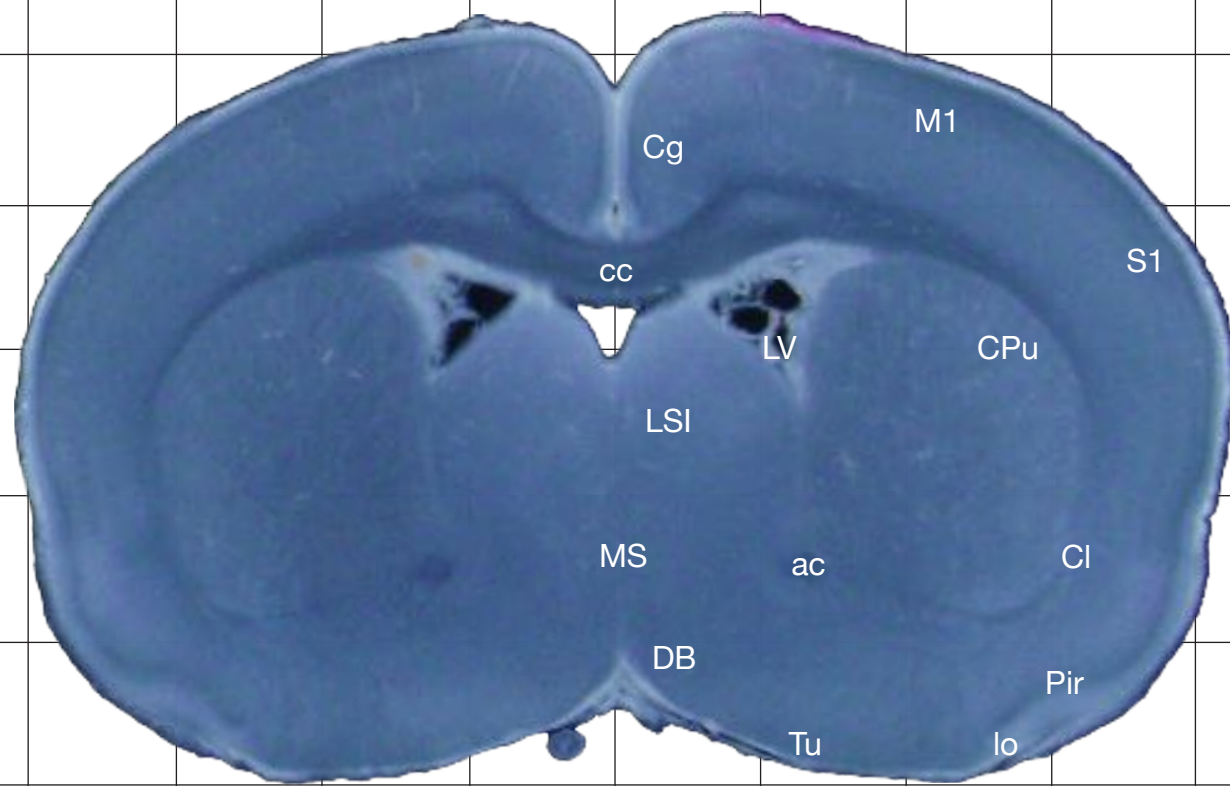
Bregma 0.60 mm
Lambda 4.80 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



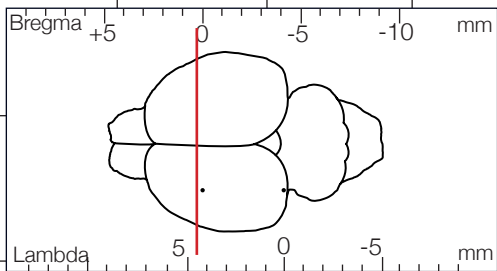
Rat P3 Figure 22



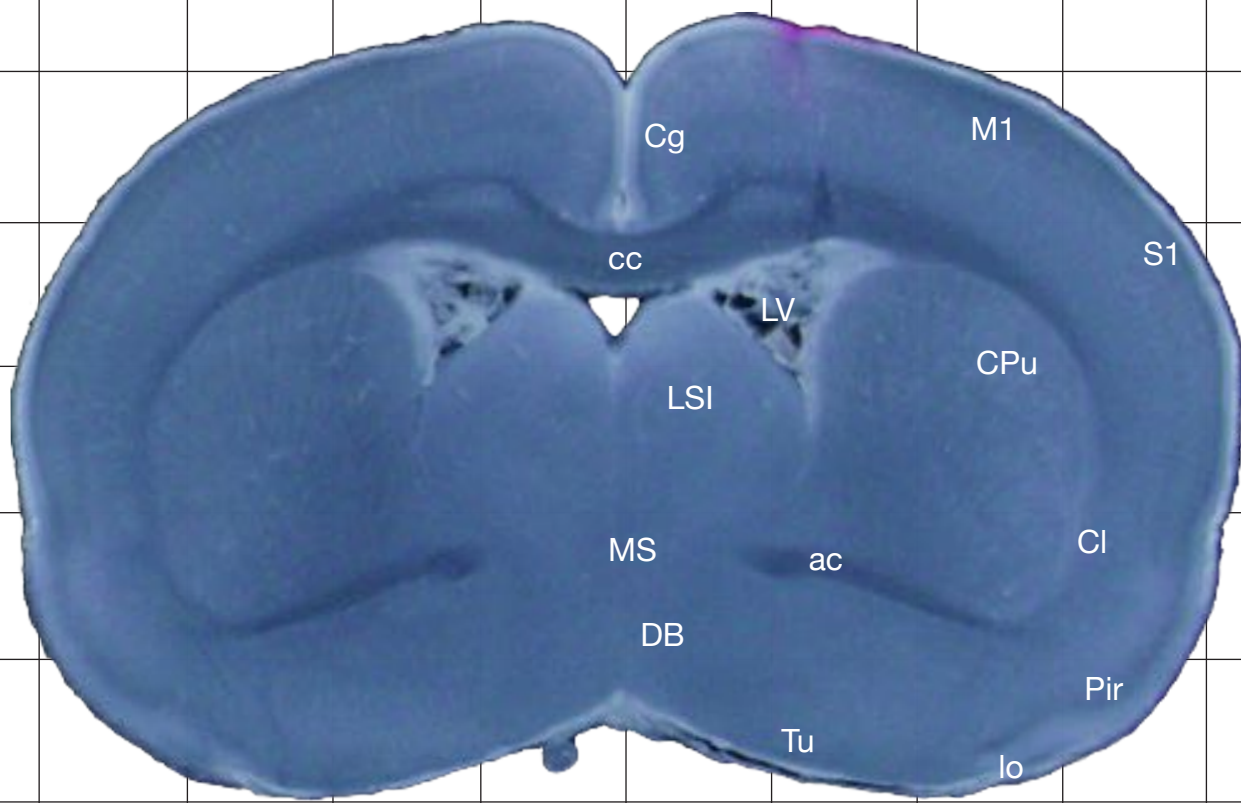
Bregma 0.40 mm
Lambda 4.60 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



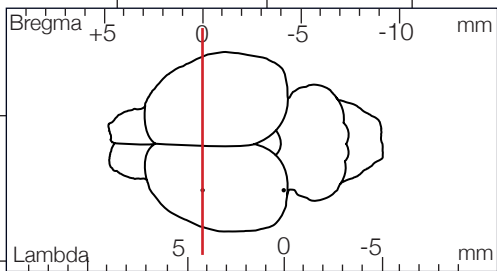
Rat P3 Figure 23



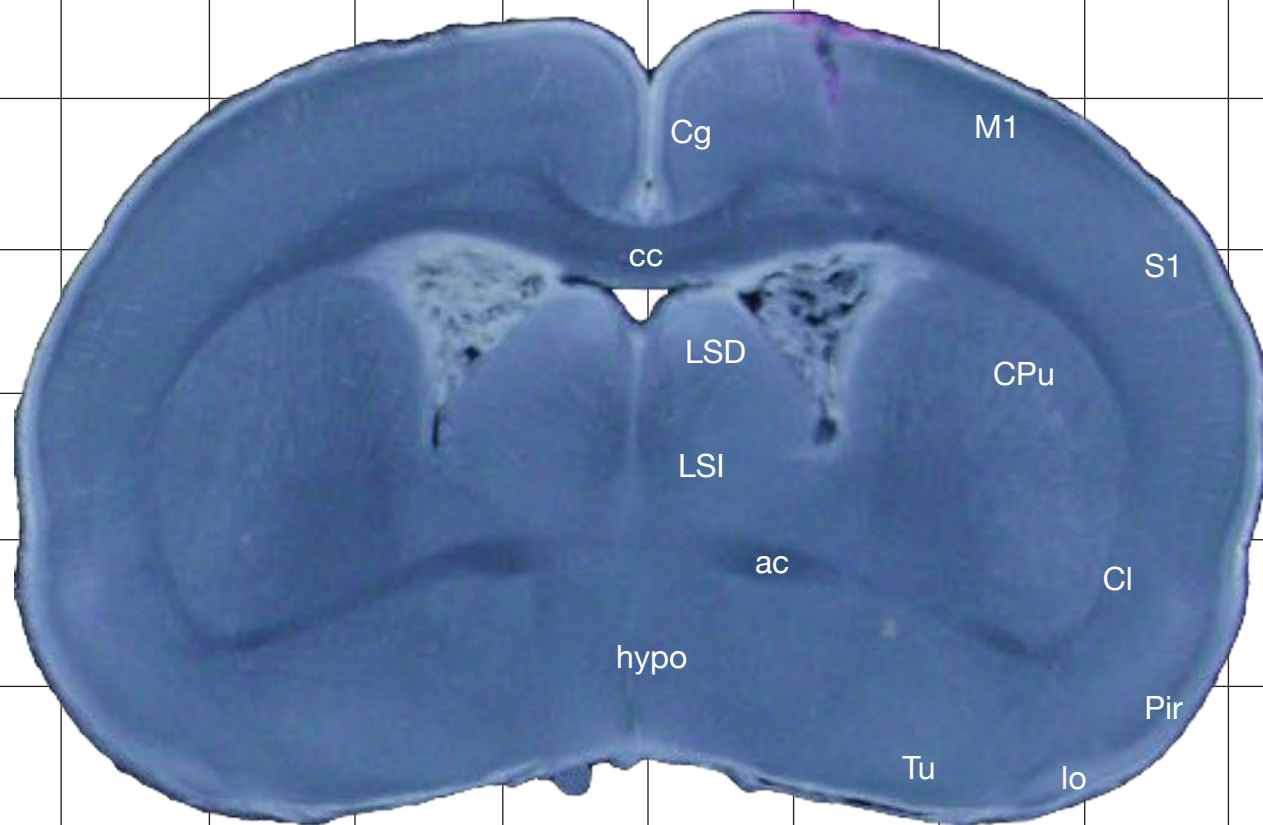
Bregma 0.20 mm
Lambda 4.40 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



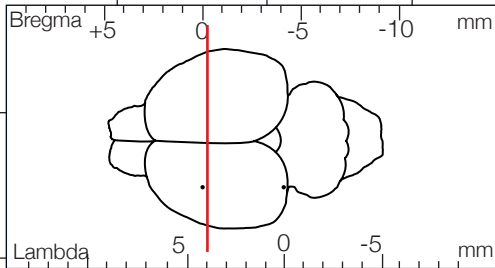
Rat P3 Figure 24



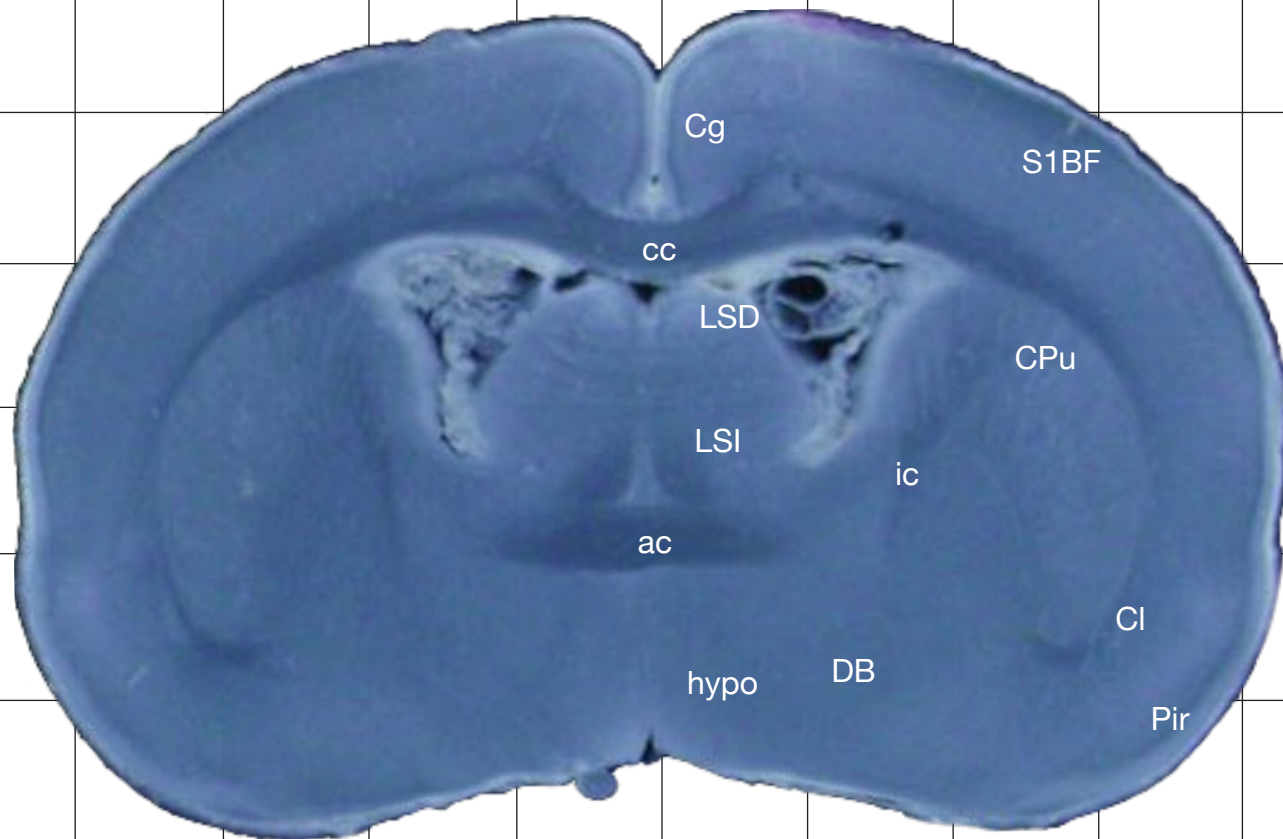
Bregma 0.00 mm
Lambda 4.20 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



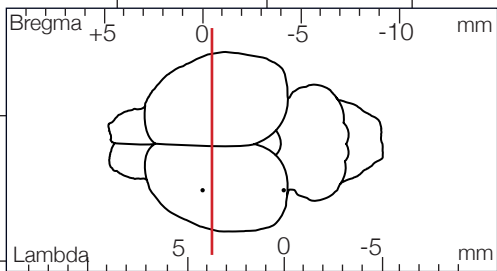
Rat P3 Figure 25



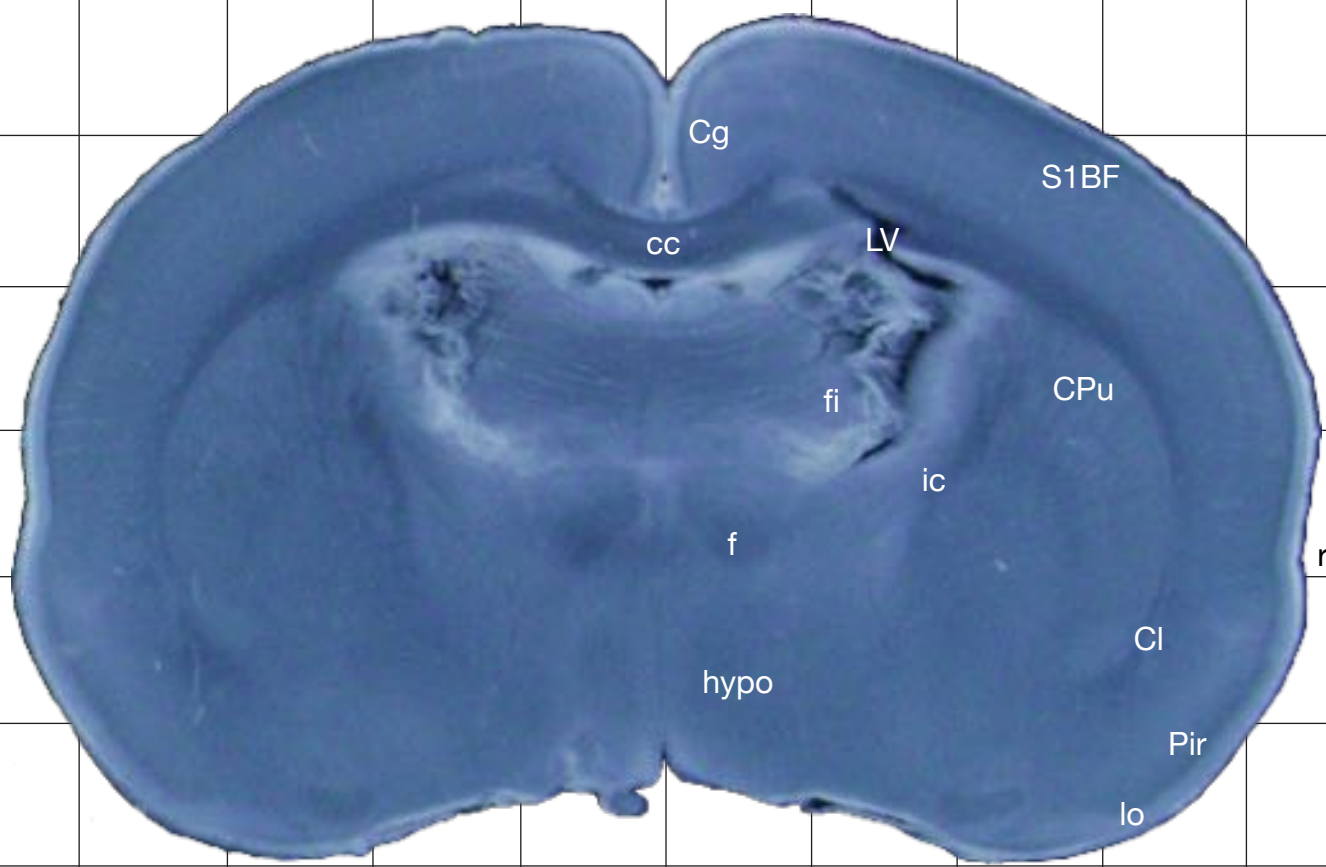
Bregma -0.20 mm
Lambda 4.00 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



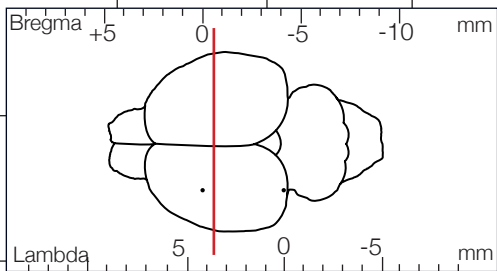
Rat P3 Figure 26



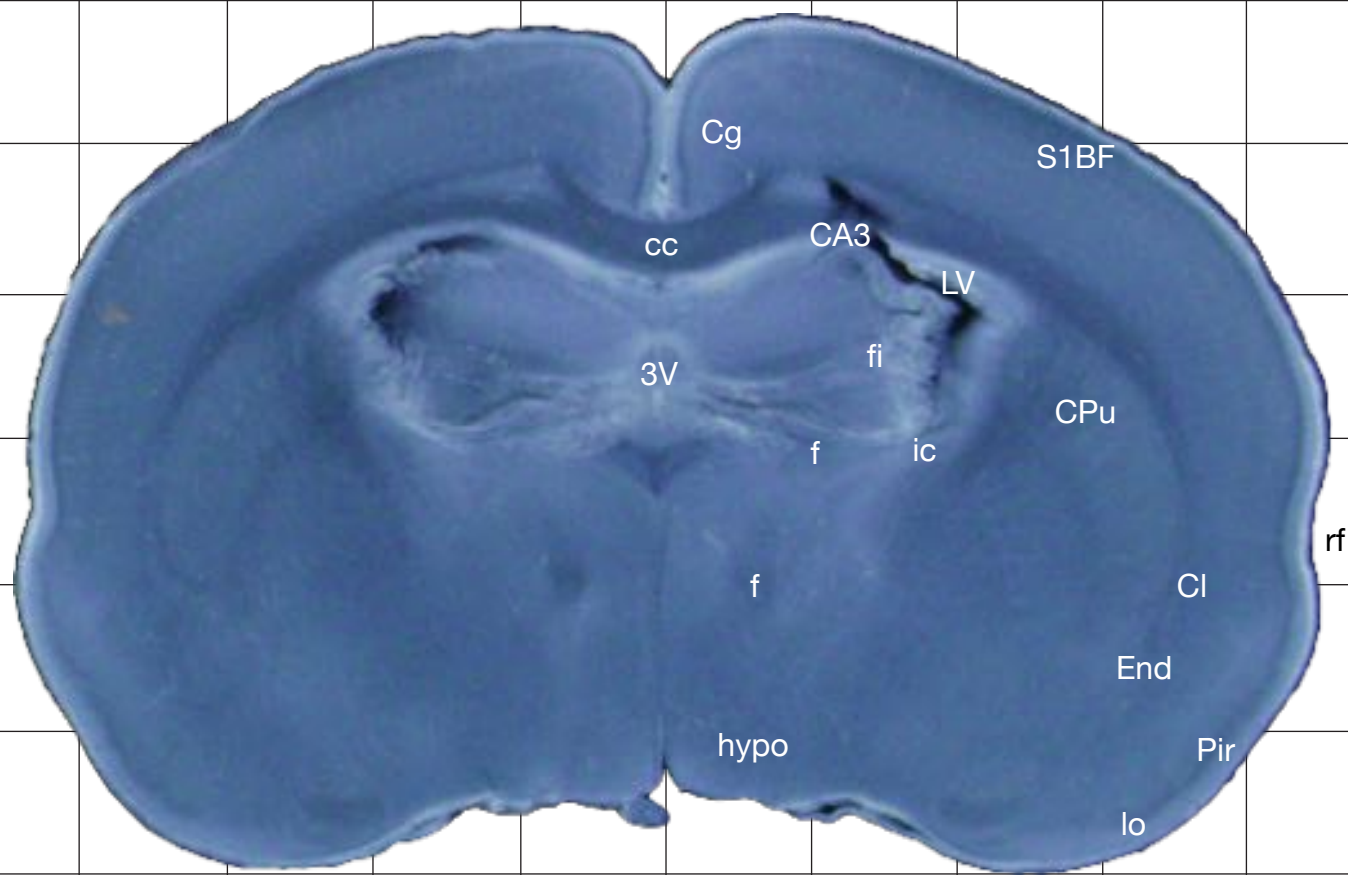
Bregma -0.40 mm
Lambda 3.80 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



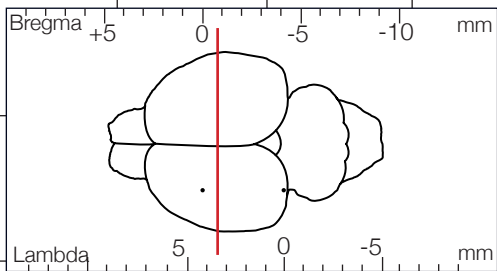
Rat P3 Figure 27



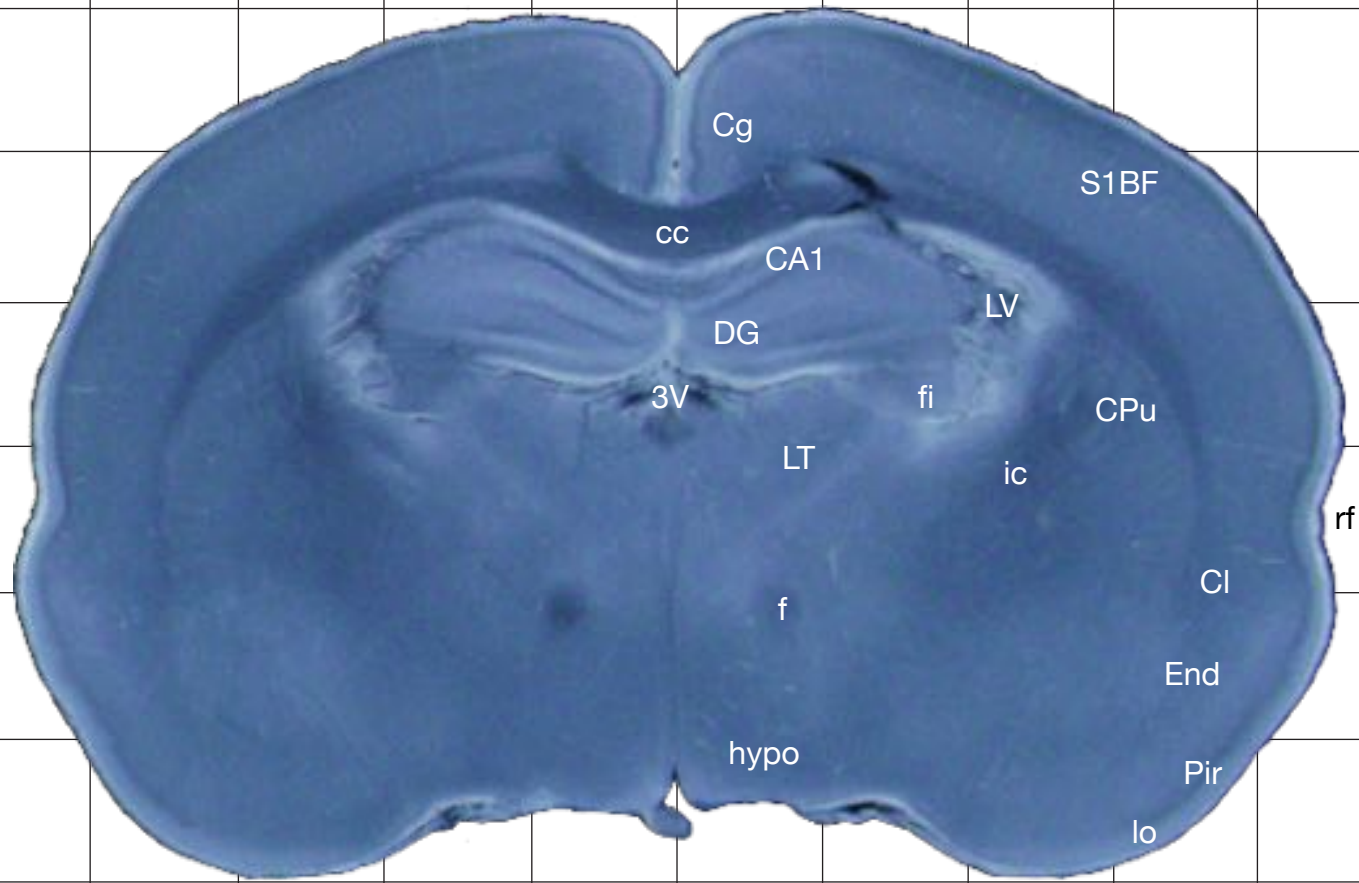
Bregma -0.60 mm
Lambda 3.60 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



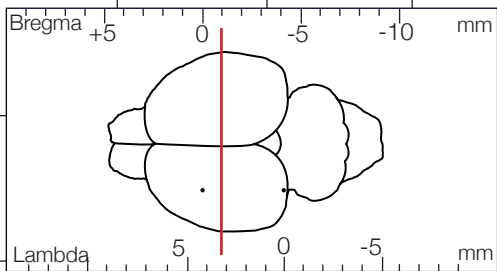
Rat P3 Figure 28



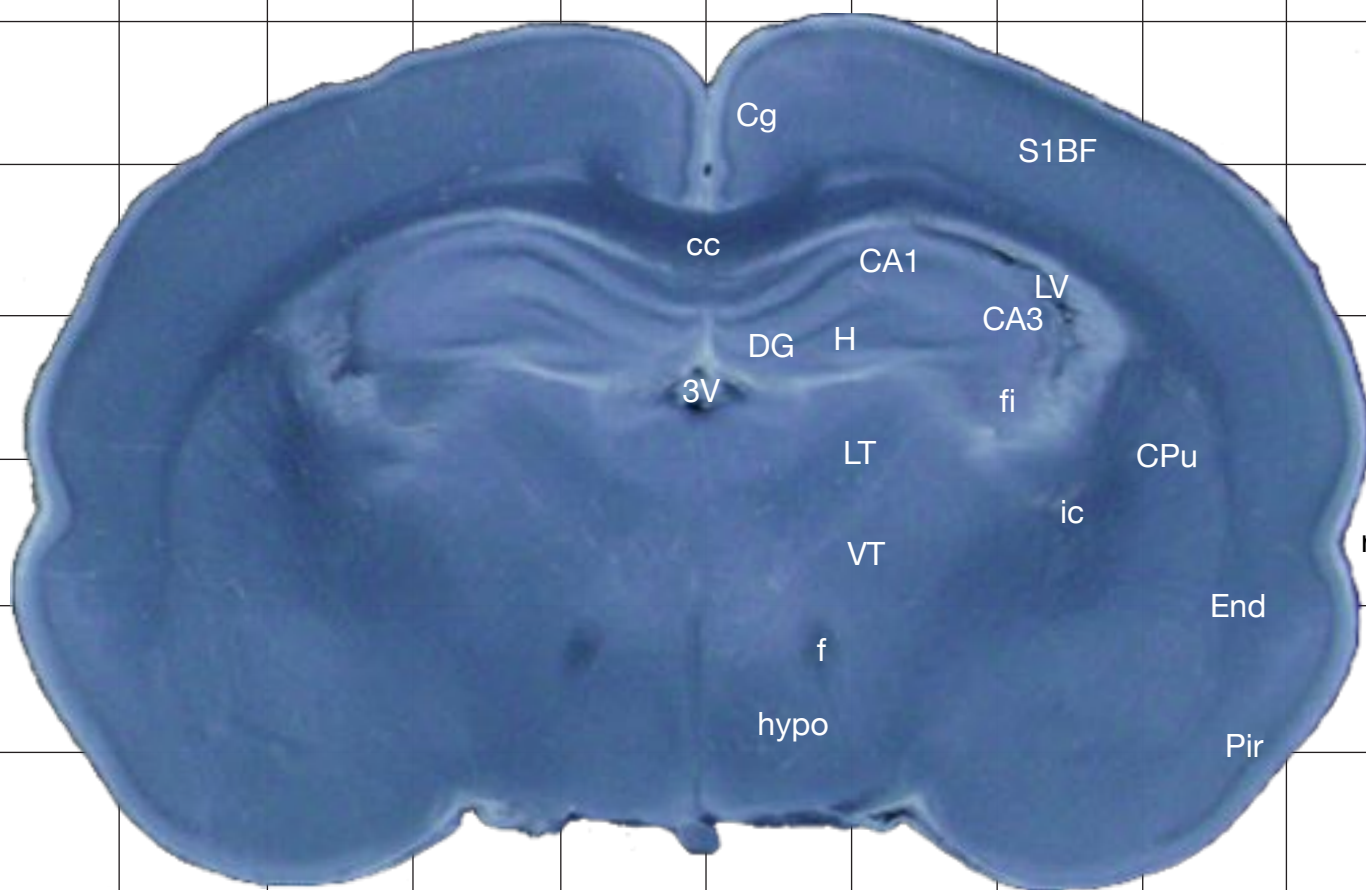
Bregma -0.80 mm
Lambda 3.40 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



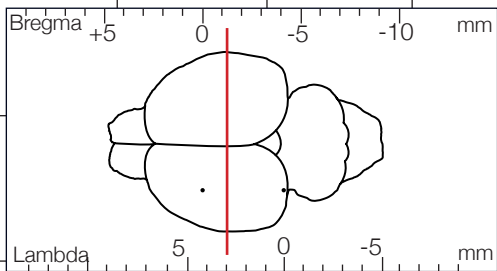
Rat P3 Figure 29



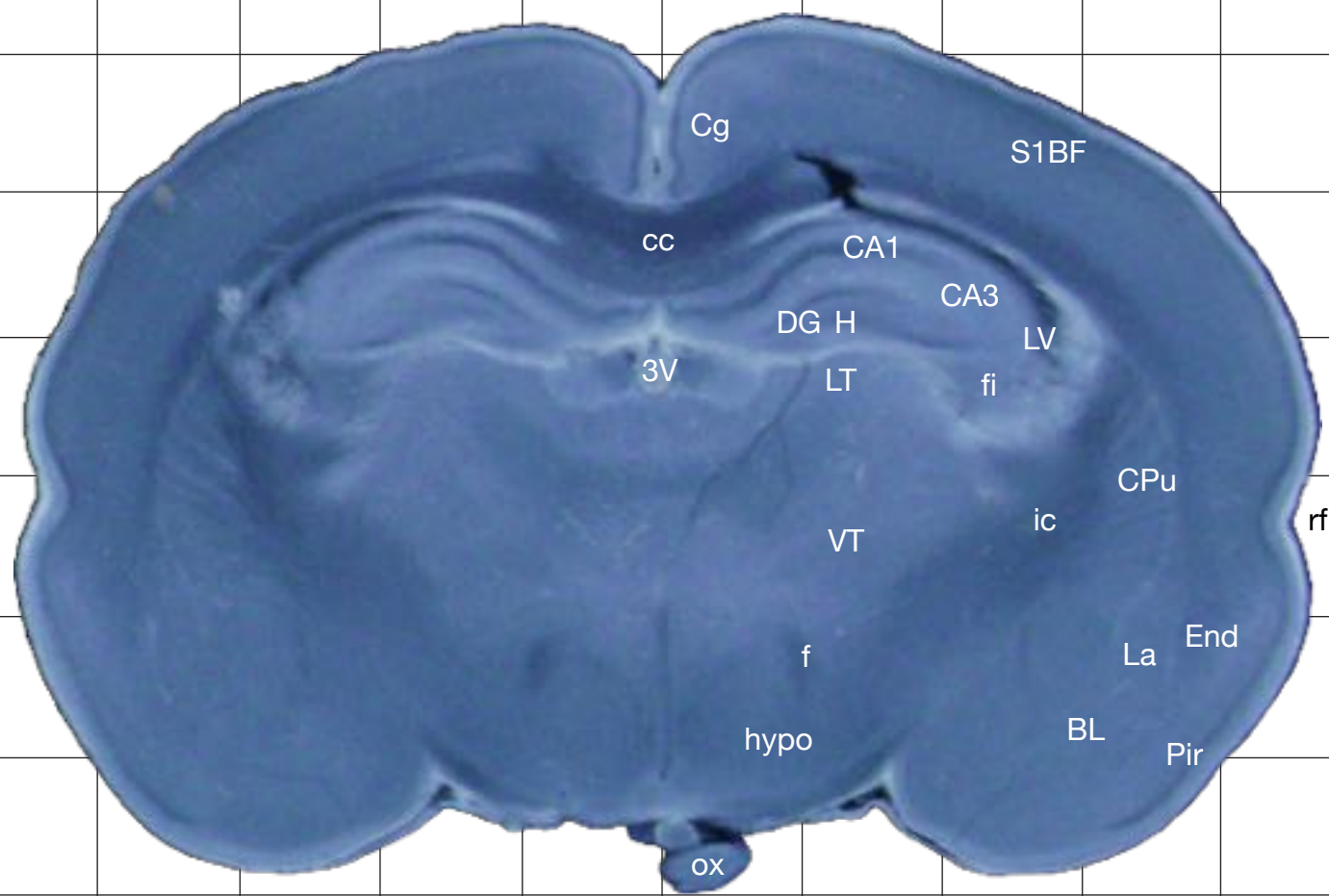
Bregma -1.00 mm
Lambda 3.20 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



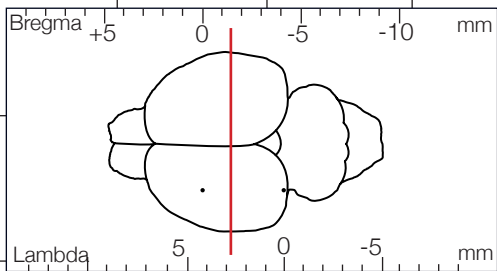
Rat P3 Figure 30



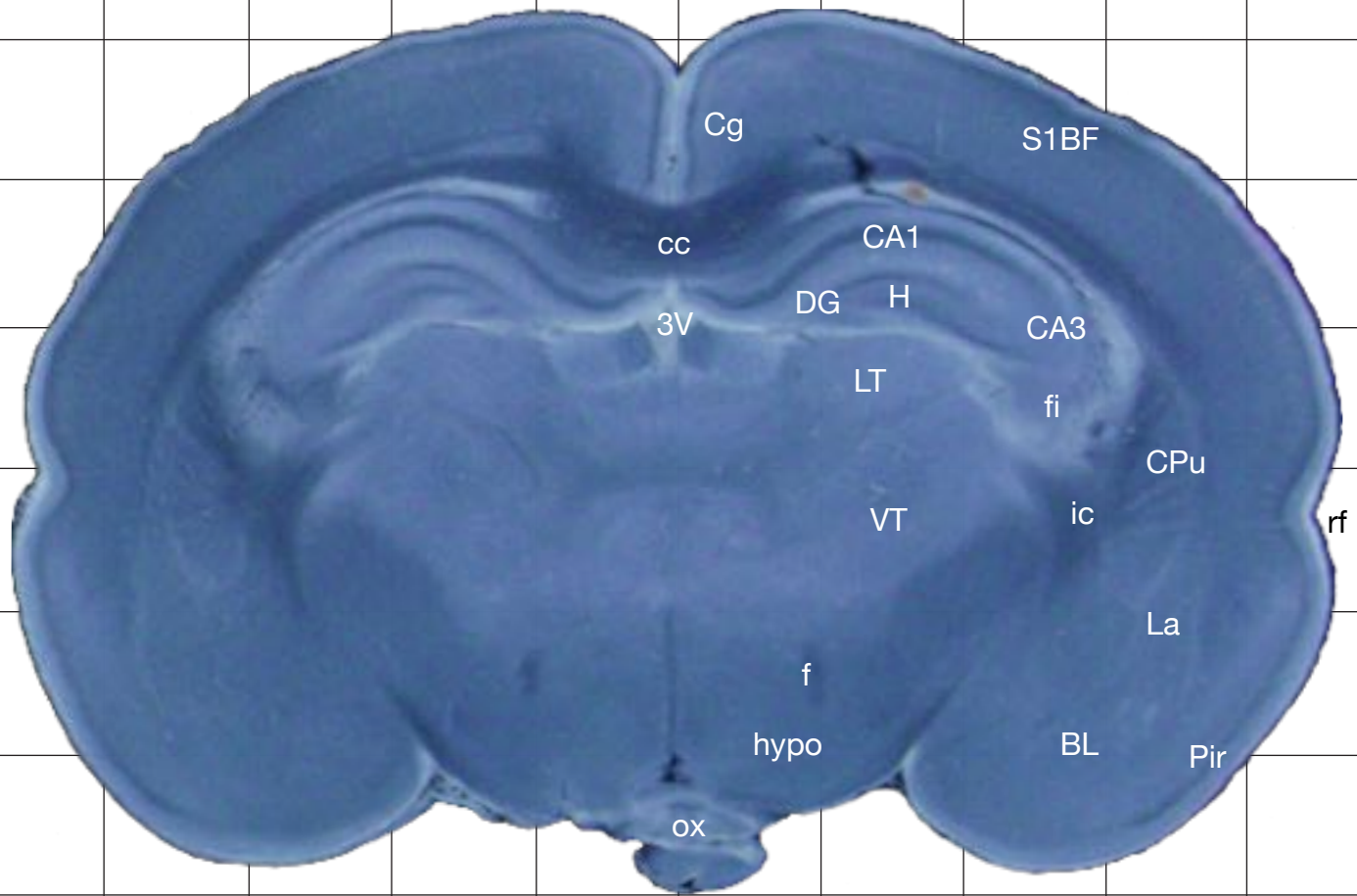
Bregma -1.20 mm
Lambda 3.00 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



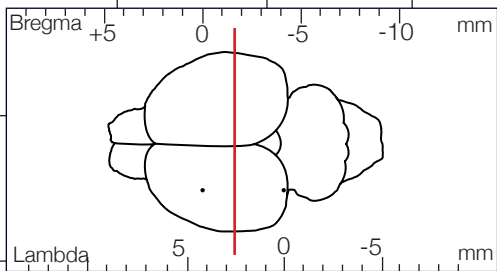
Rat P3 Figure 31



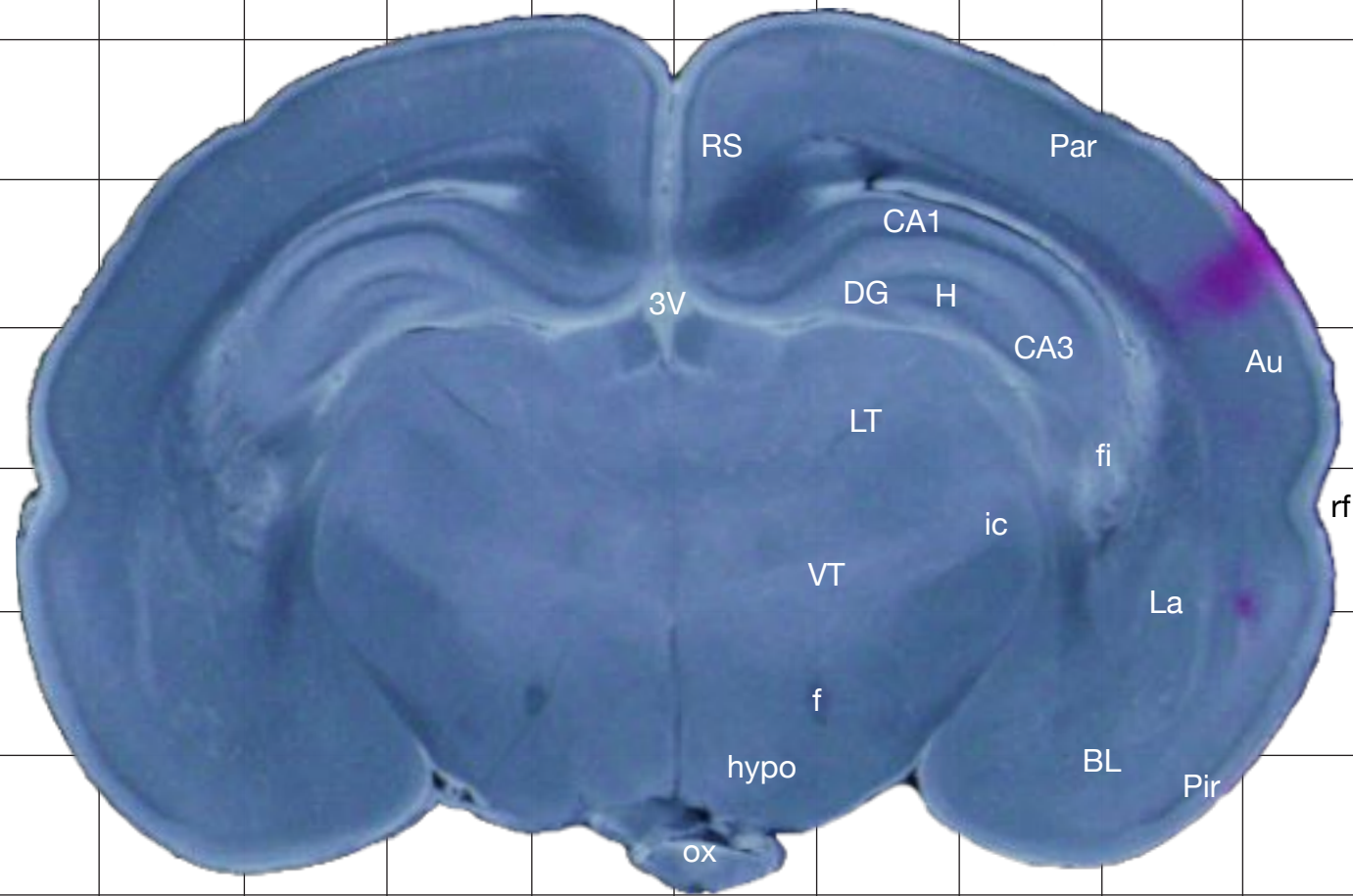
Bregma -1.40 mm
Lambda 2.80 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



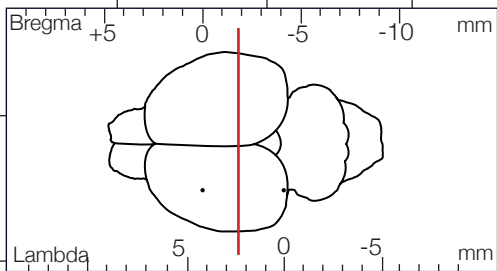
Rat P3 Figure 32



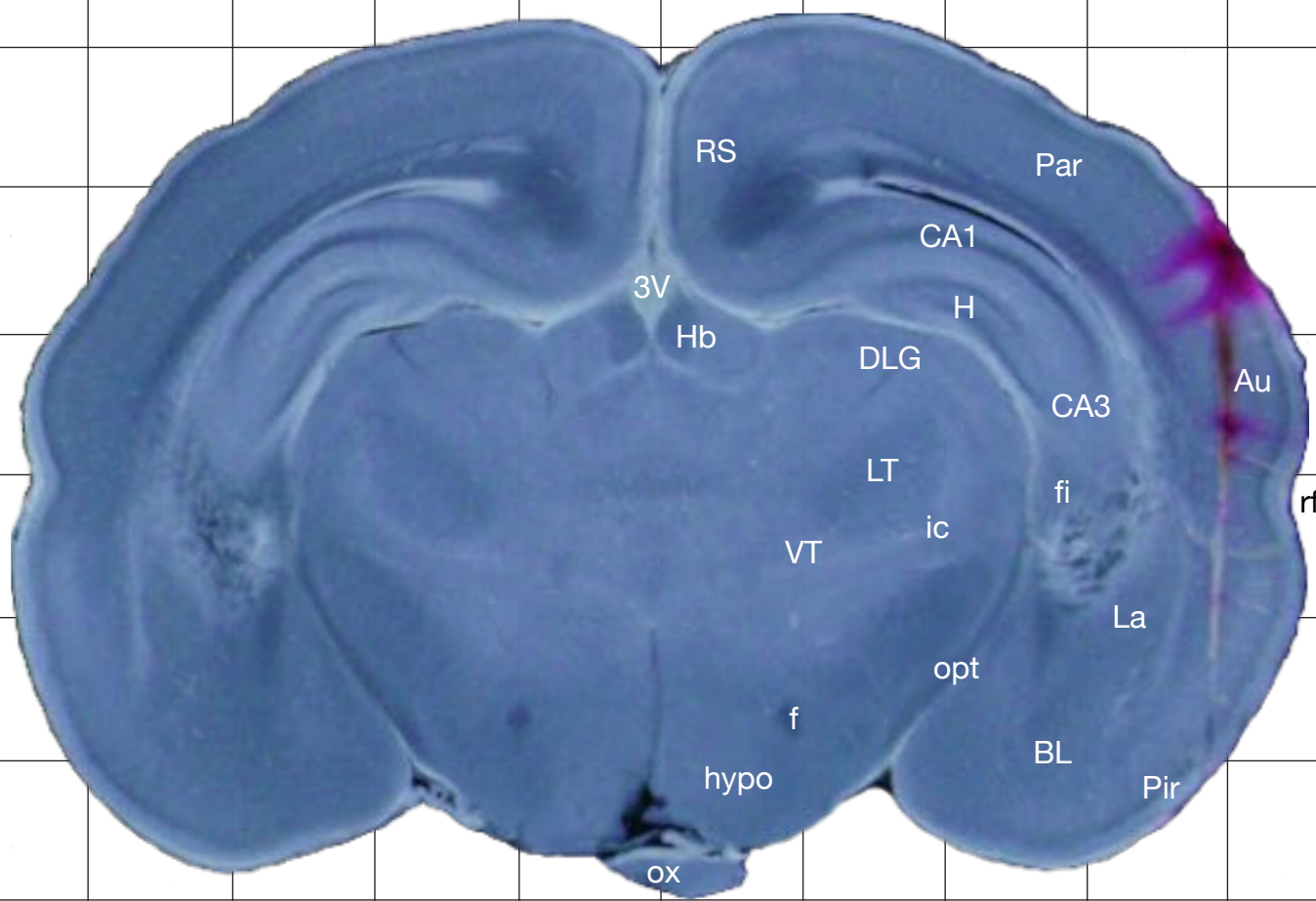
Bregma -1.60 mm
Lambda 2.60 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



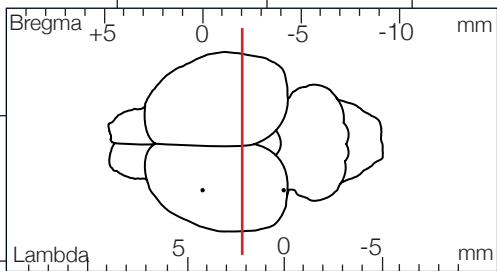
Rat P3 Figure 33



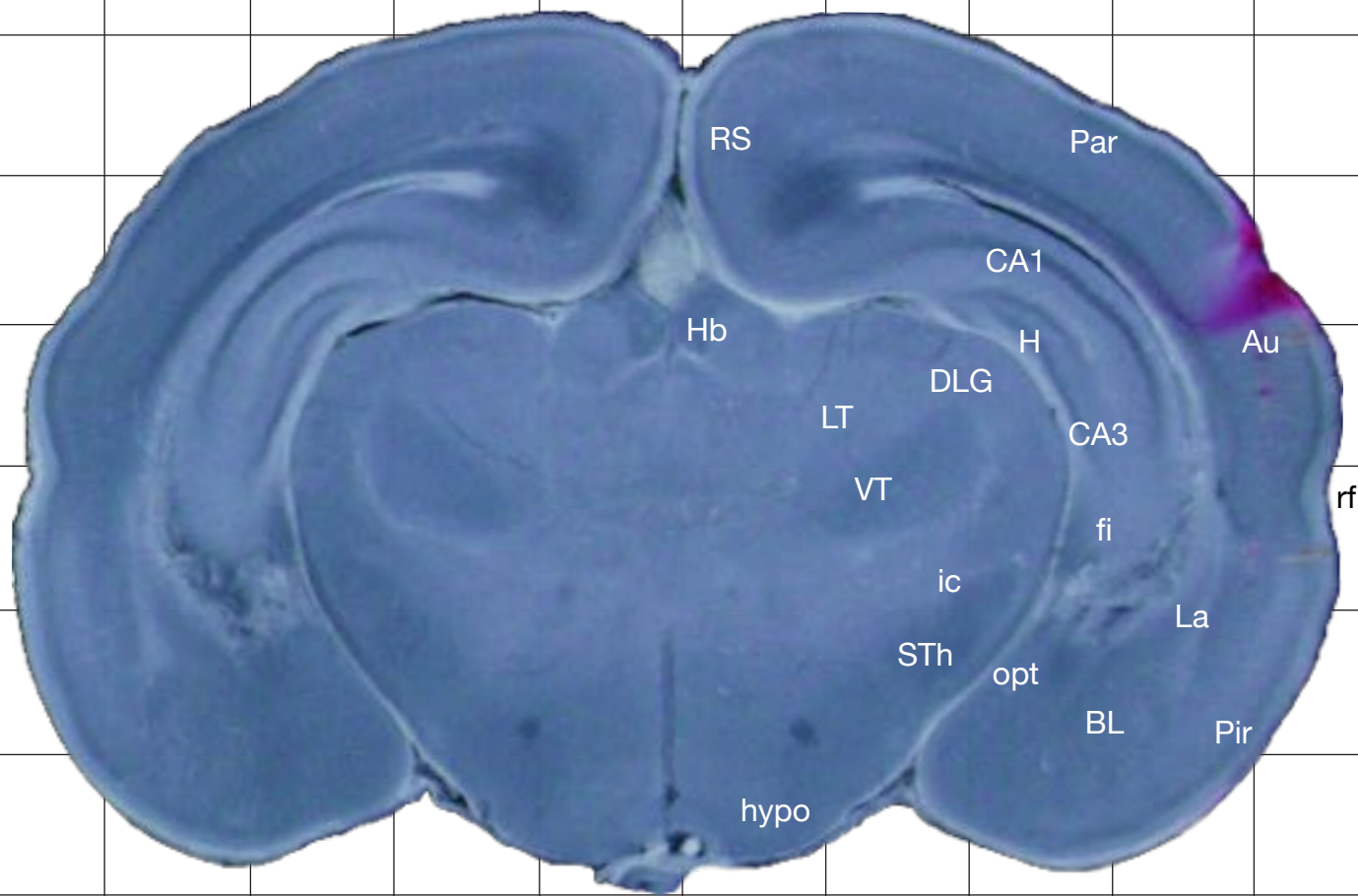
Bregma -1.80 mm
Lambda 2.40 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



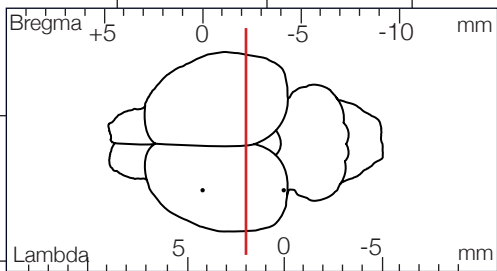
Rat P3 Figure 34



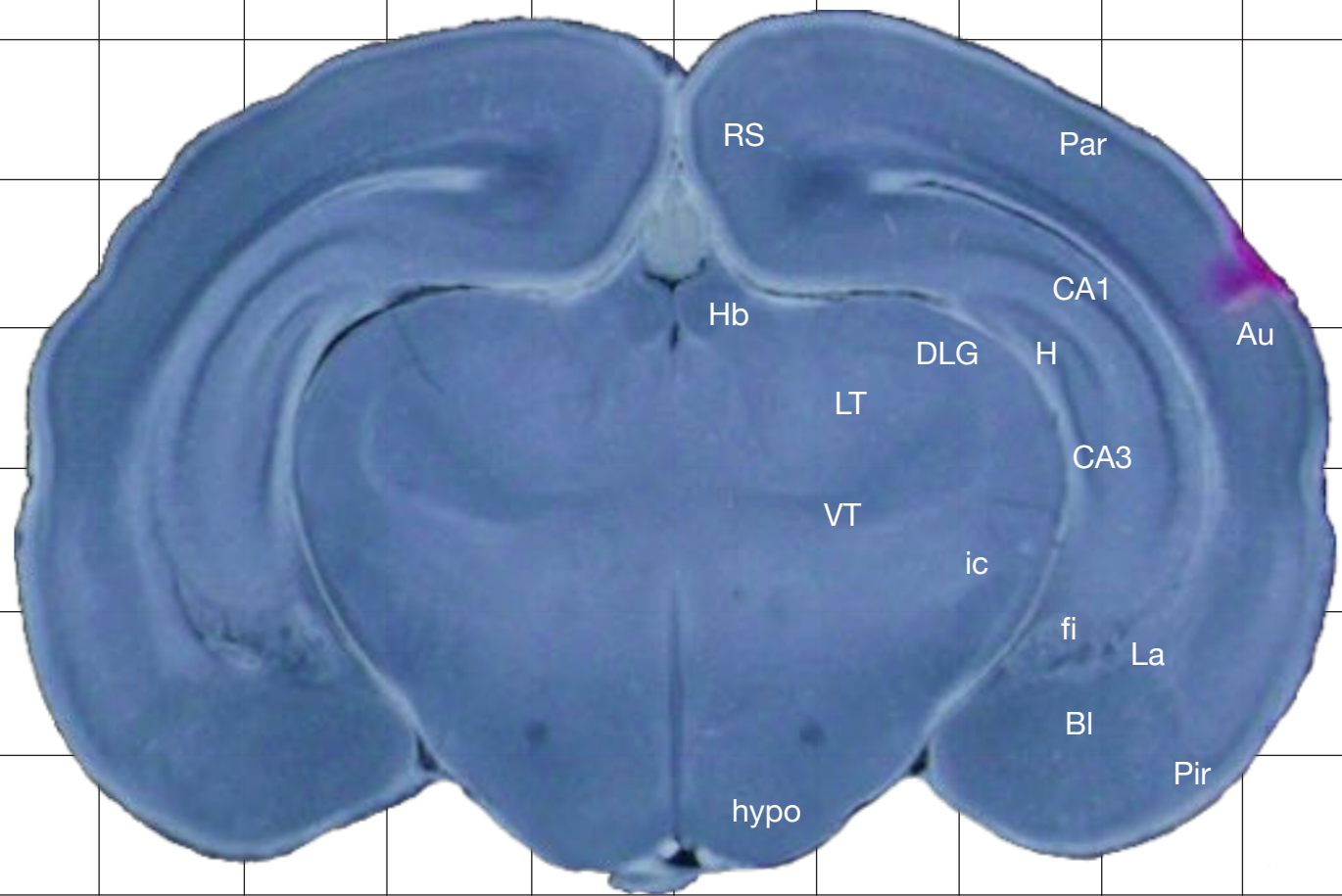
Bregma -2.00 mm
Lambda 2.20 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



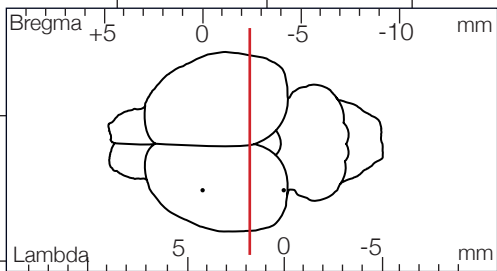
Rat P3 Figure 35



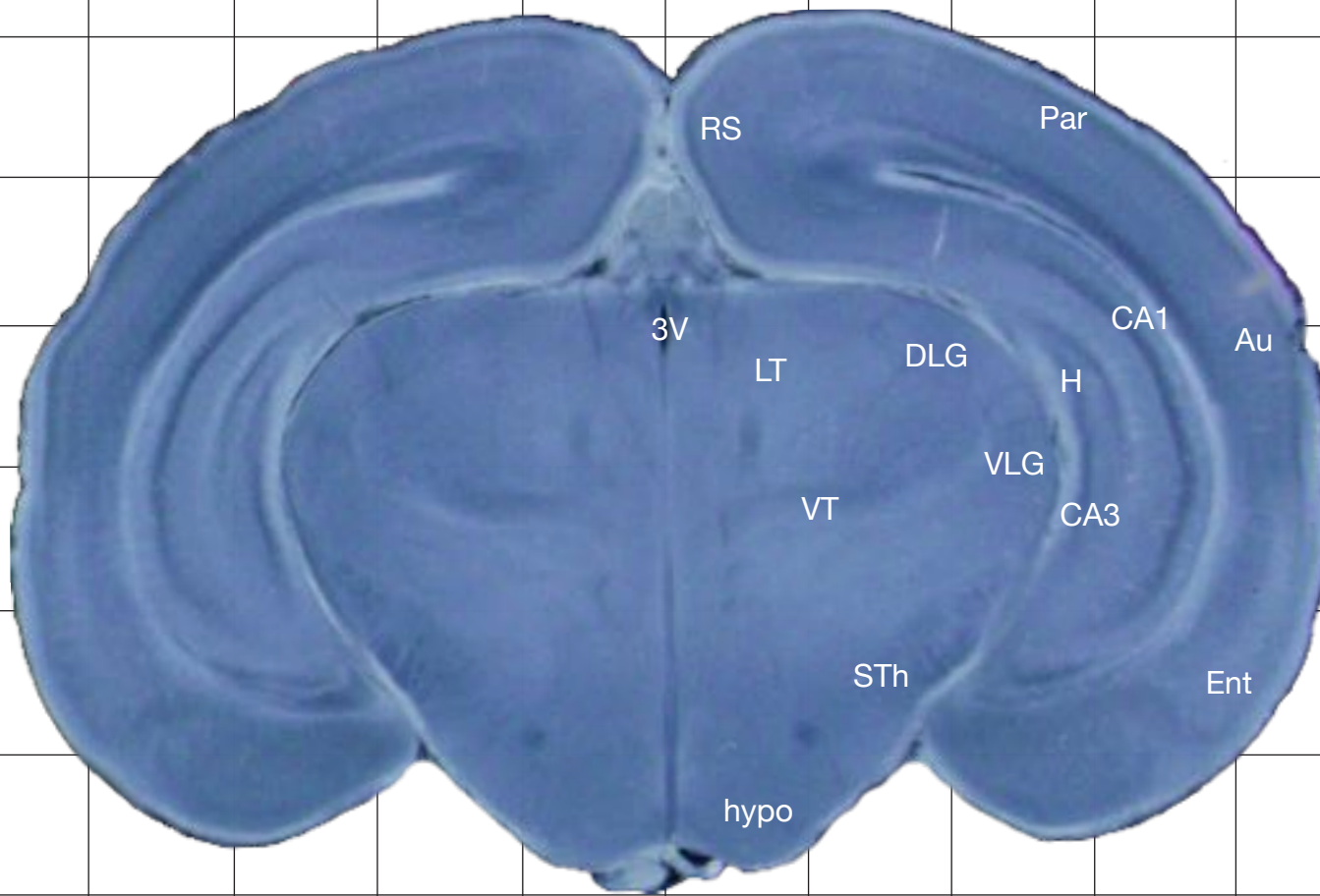
Bregma -2.20 mm
Lambda 2.00 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



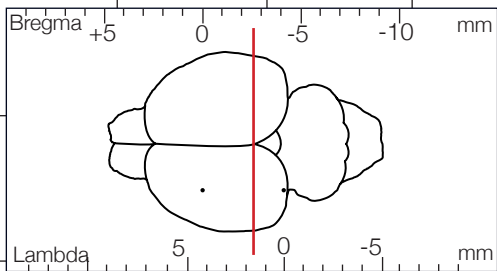
Rat P3 Figure 36



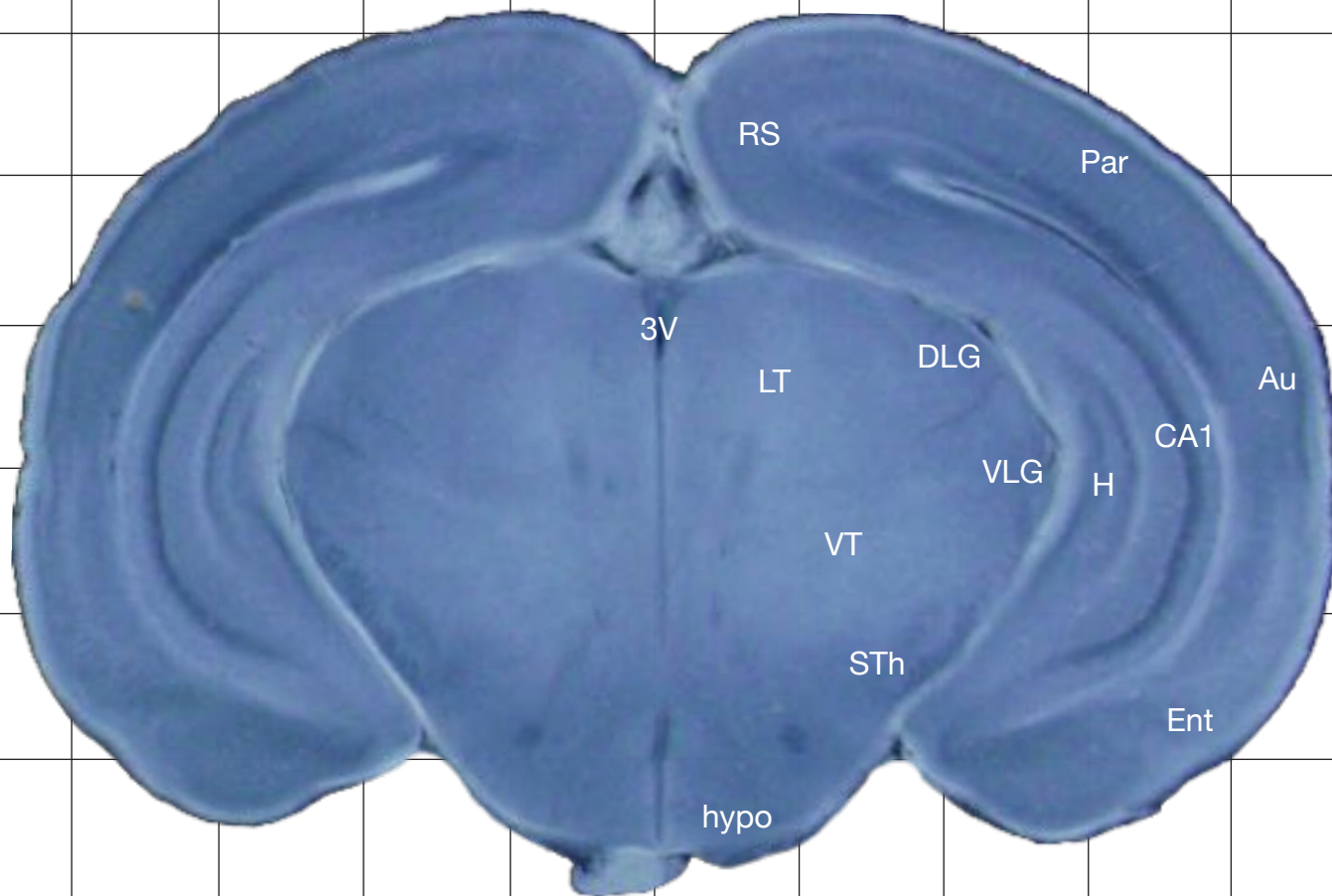
Bregma -2.40 mm
Lambda 1.80 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



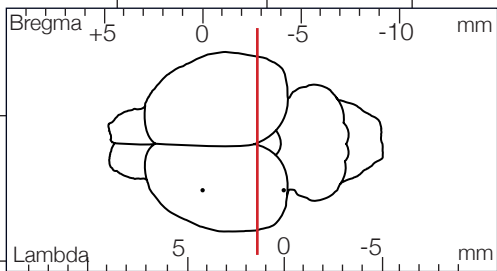
Rat P3 Figure 37



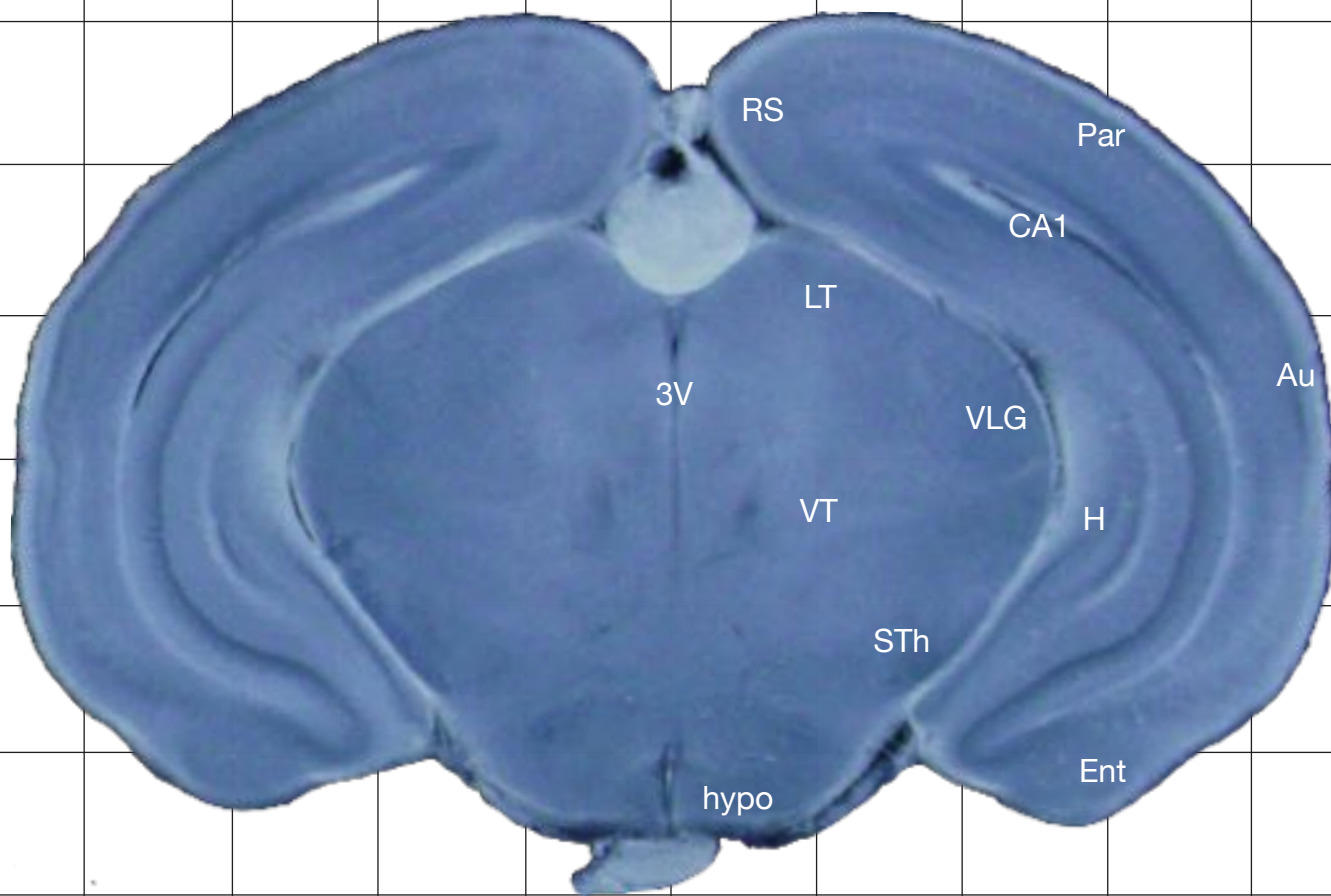
Bregma -2.60 mm
Lambda 1.60 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



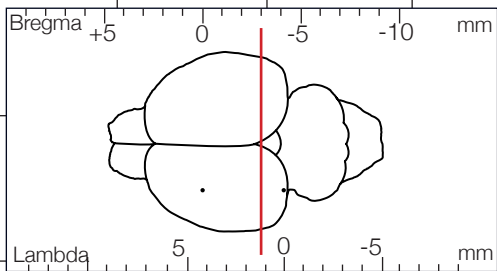
Rat P3 Figure 38



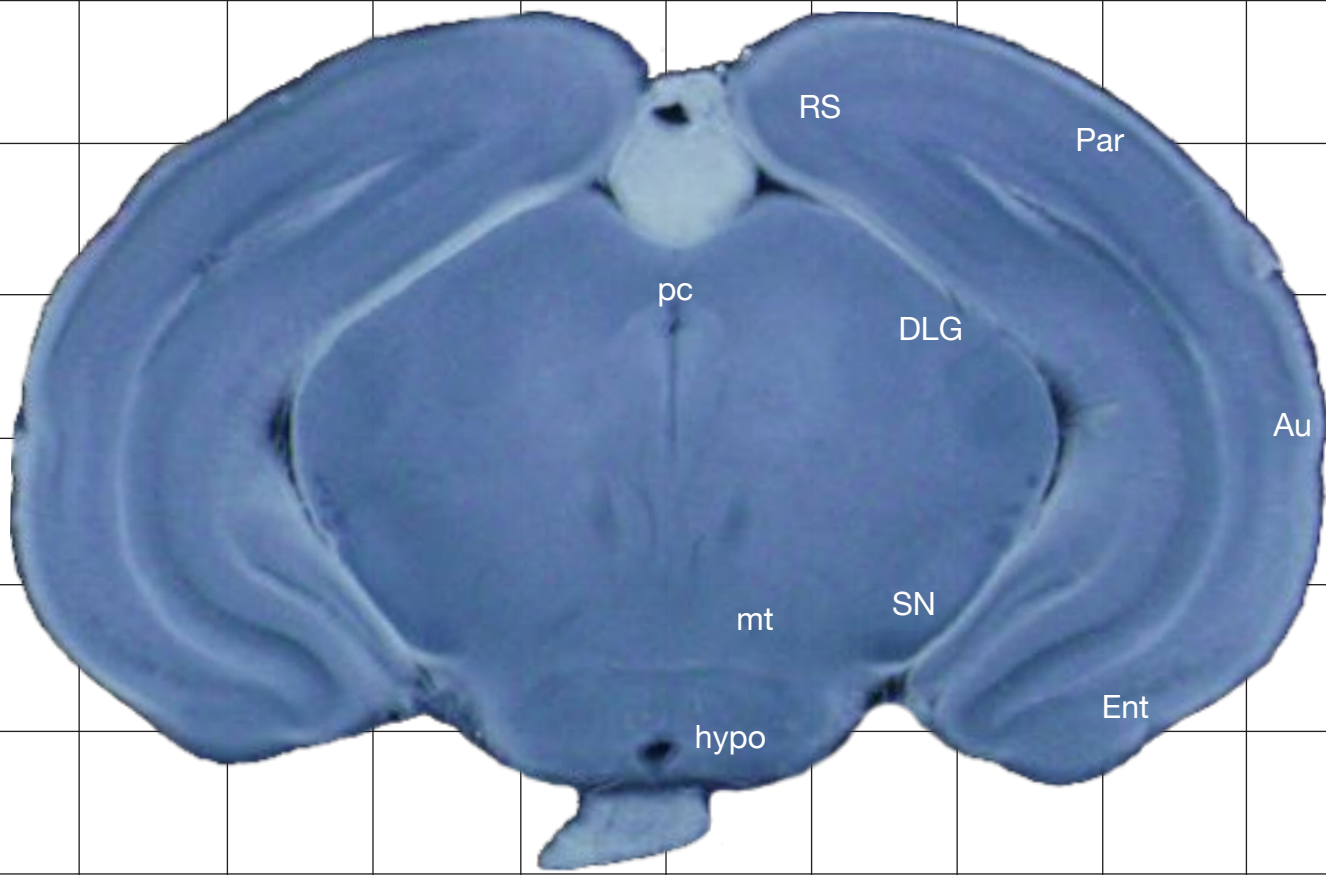
Bregma -2.80 mm
Lambda 1.40 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



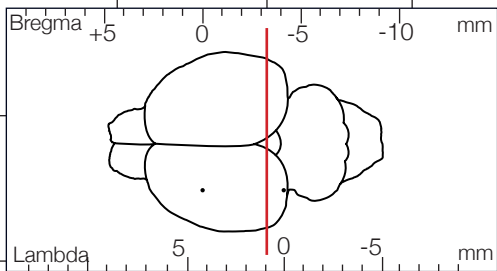
Rat P3 Figure 39



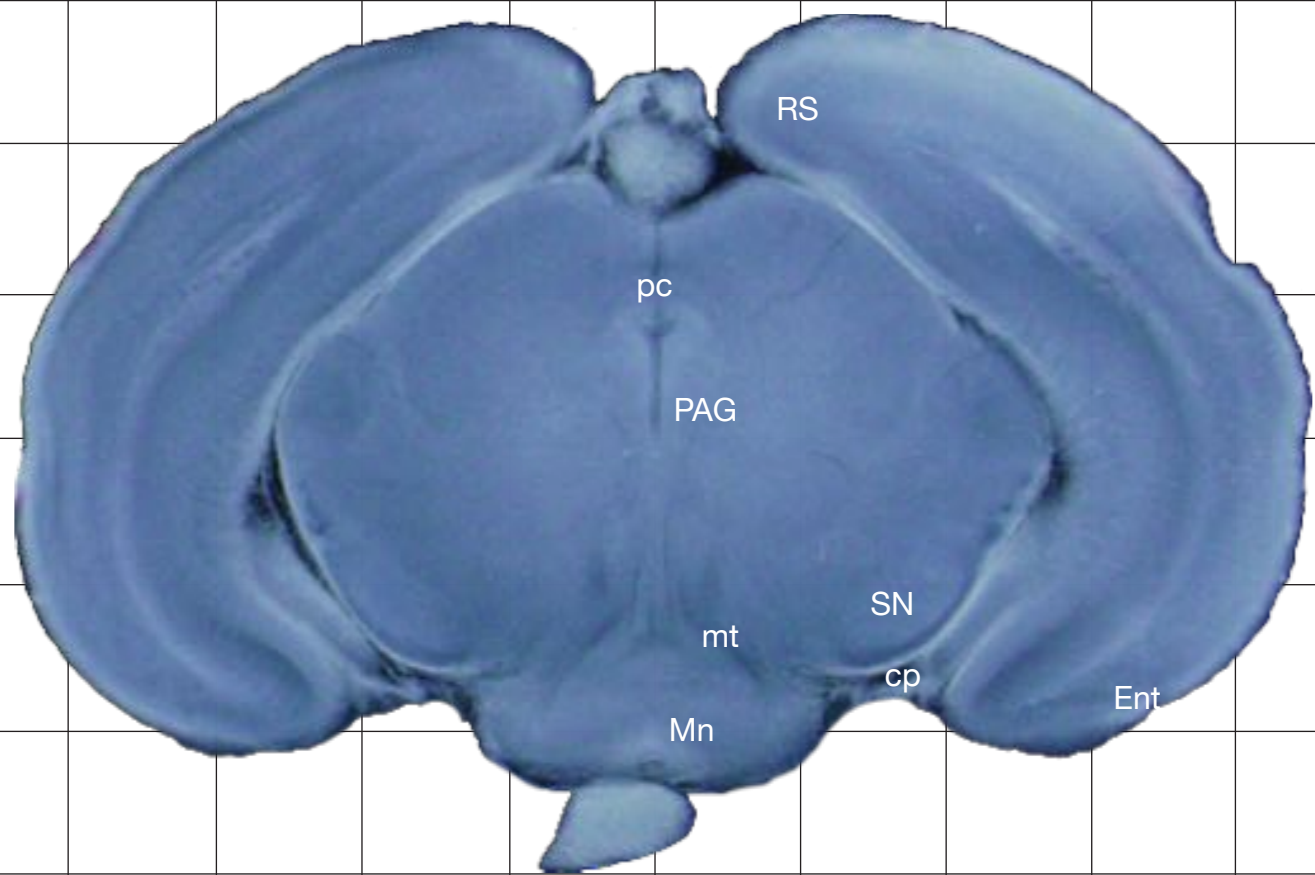
Bregma -3.00 mm
Lambda 1.20 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



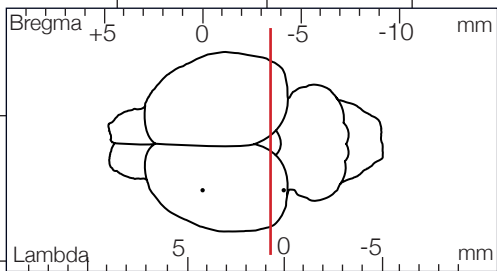
Rat P3 Figure 40



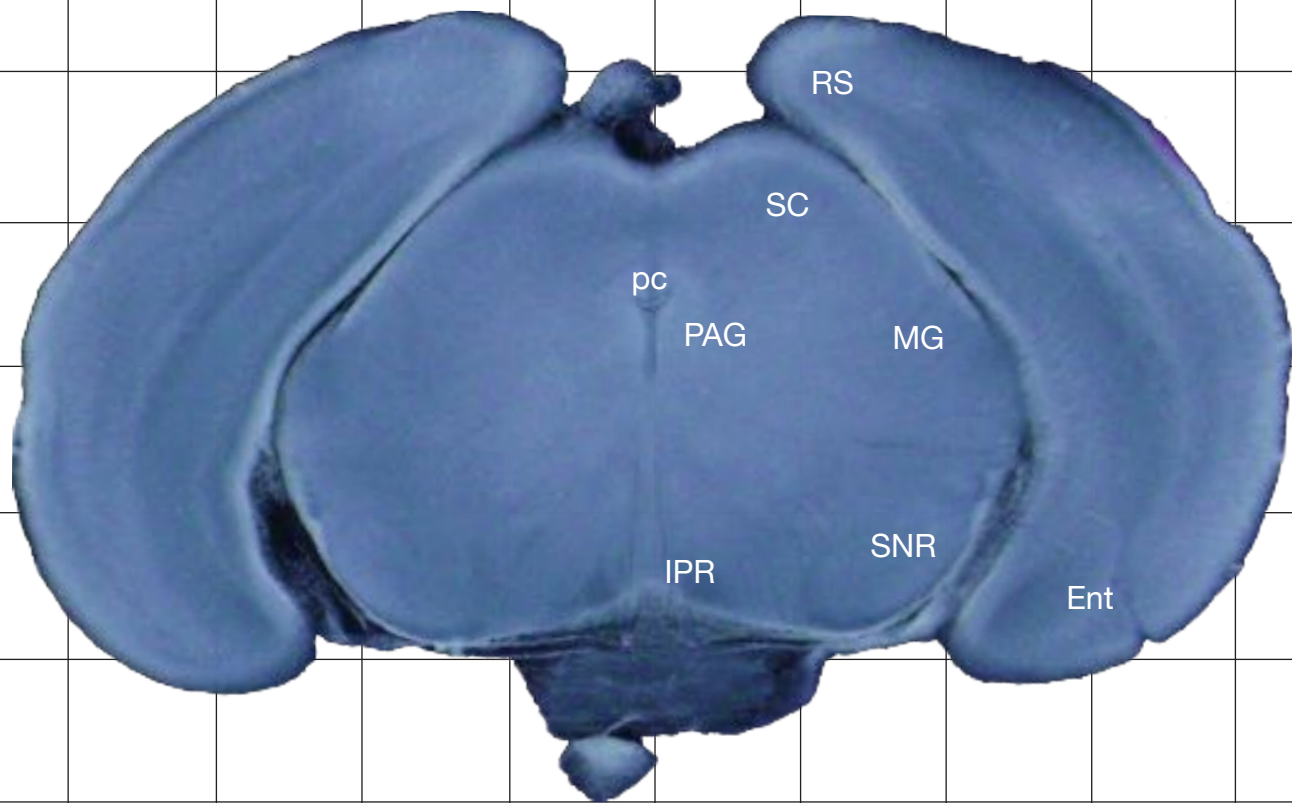
Bregma -3.20 mm
Lambda 1.00 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



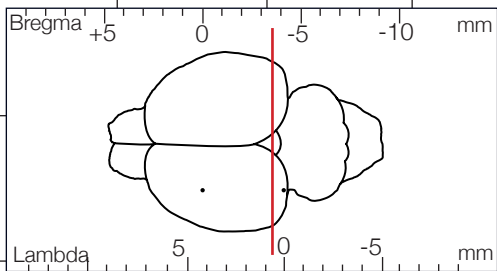
Rat P3 Figure 41



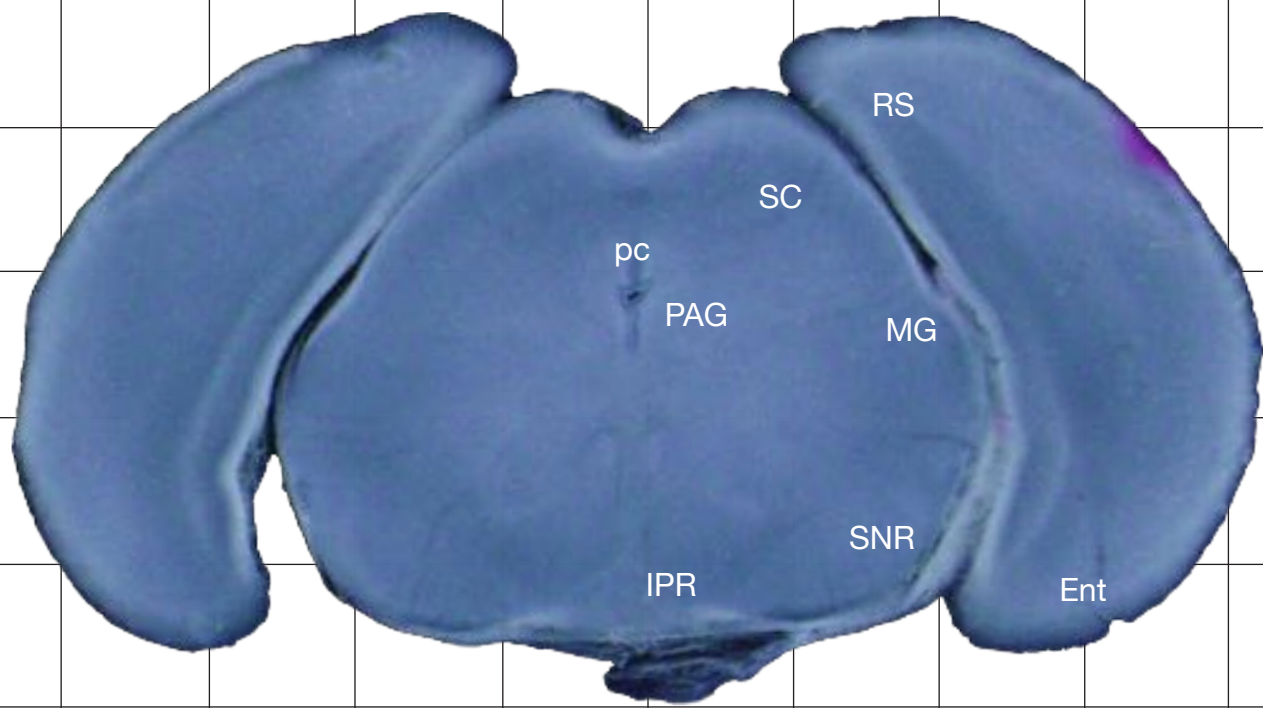
Bregma -3.40 mm
Lambda 0.80 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



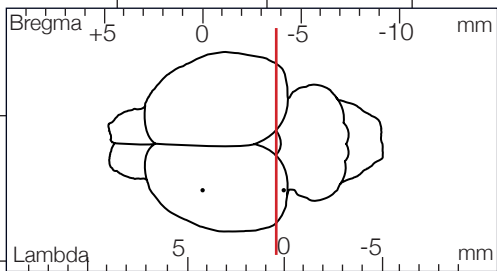
Rat P3 Figure 42



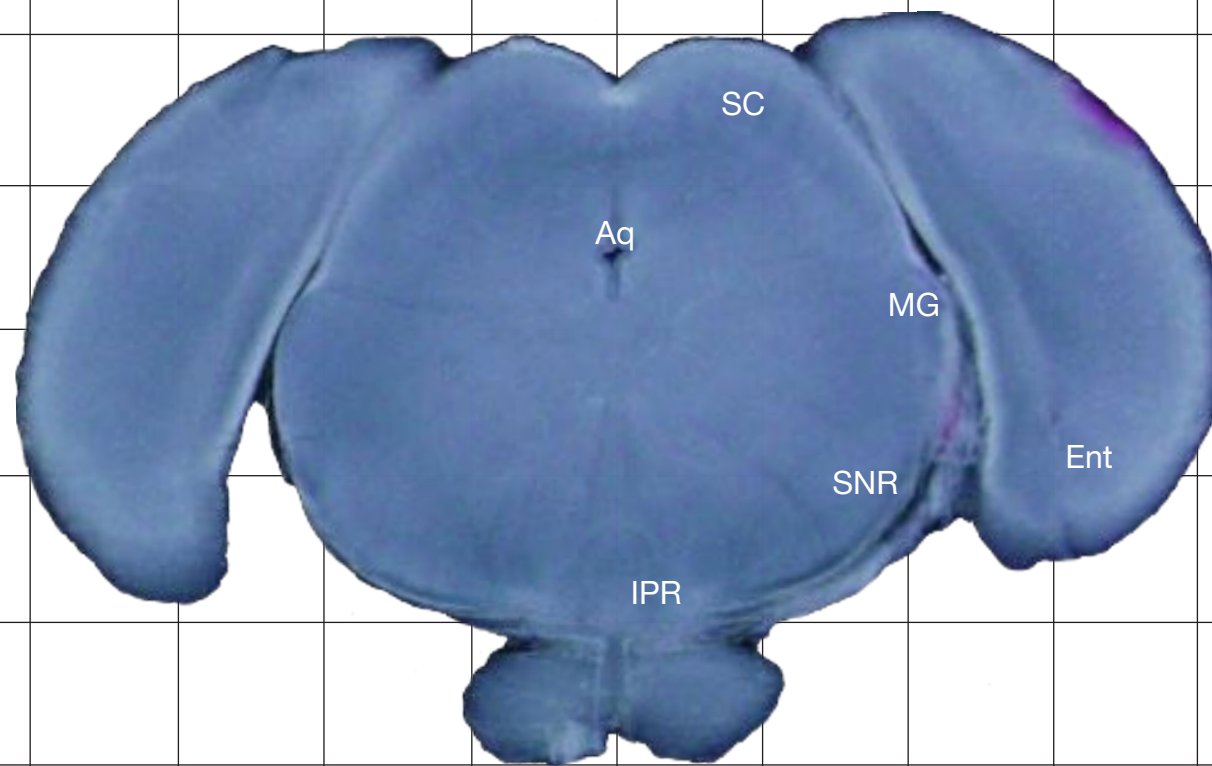
Bregma -3.60 mm
Lambda 0.60 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



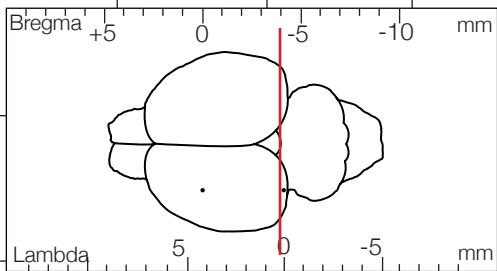
Rat P3 Figure 43



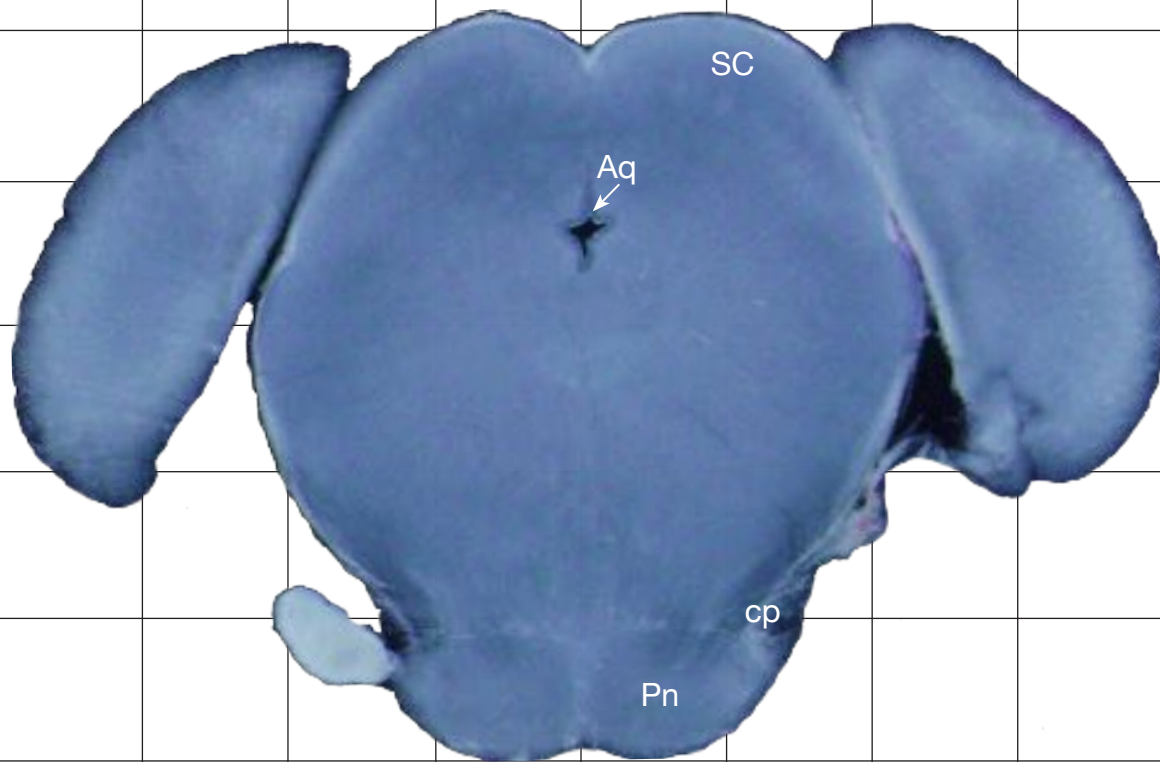
Bregma -3.80 mm
Lambda 0.40 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



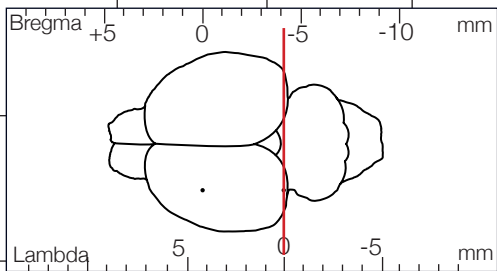
Rat P3 Figure 44



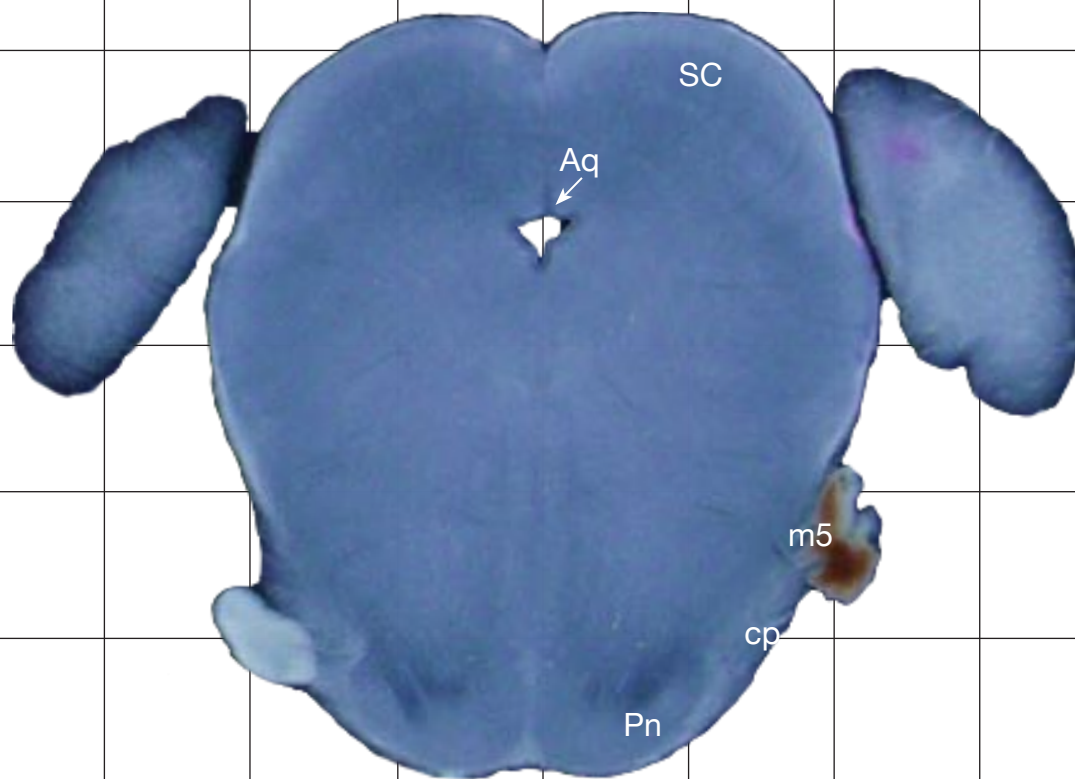
Bregma -4.00 mm
Lambda 0.20 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



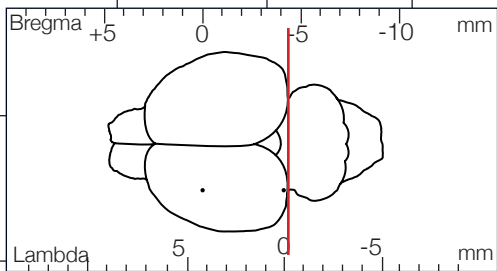
Rat P3 Figure 45



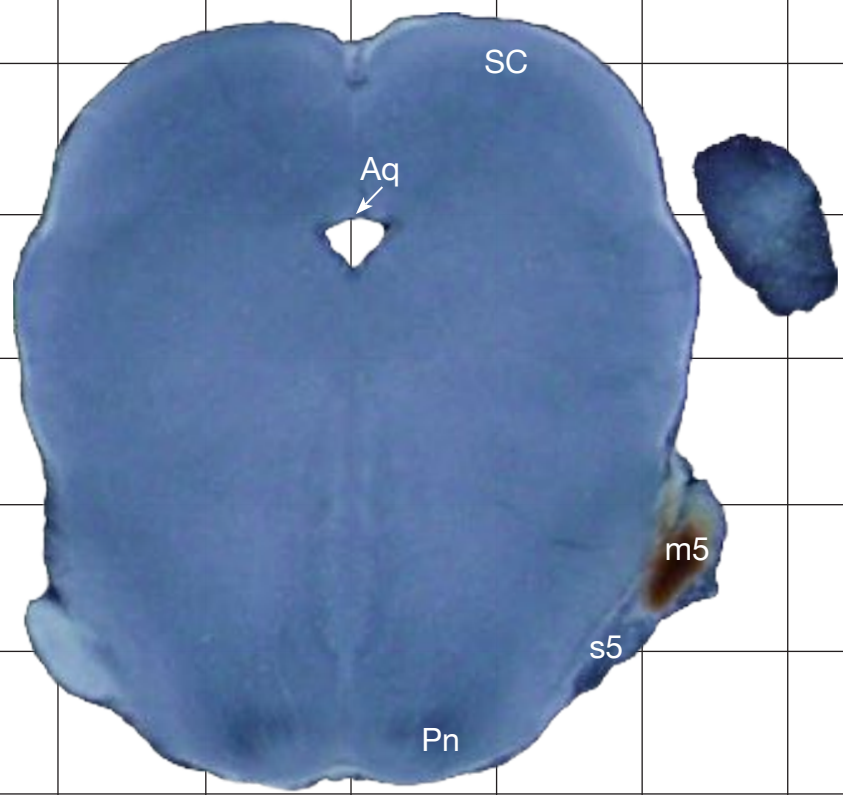
Bregma -4.20 mm
Lambda 0.00 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



Rat P3 Figure 46

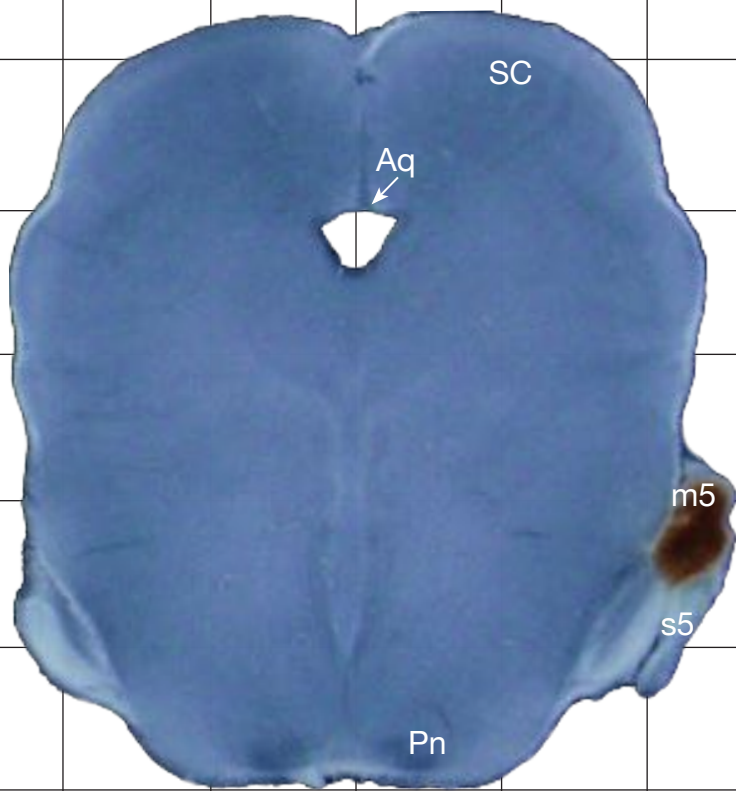
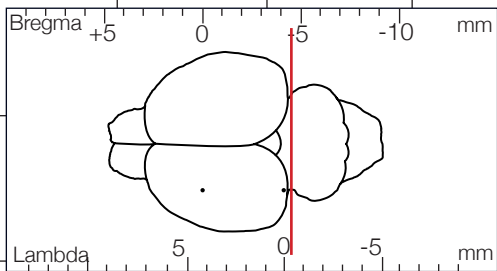


Bregma -4.40 mm
Lambda -0.20 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

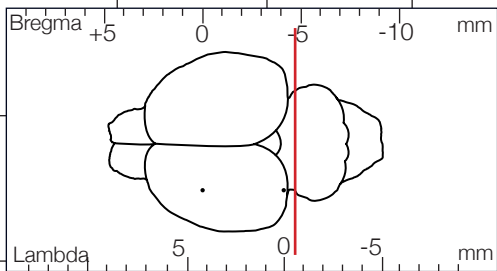
Rat P3 Figure 47



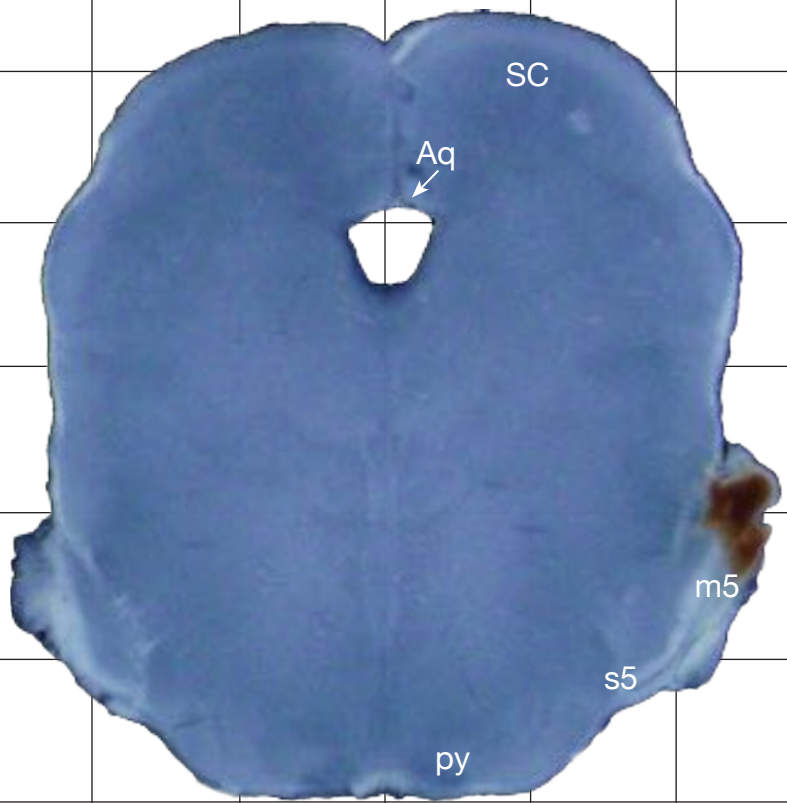
Bregma -4.60 mm
Lambda -0.40 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



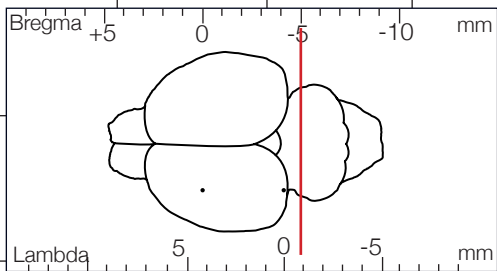
Rat P3 Figure 48



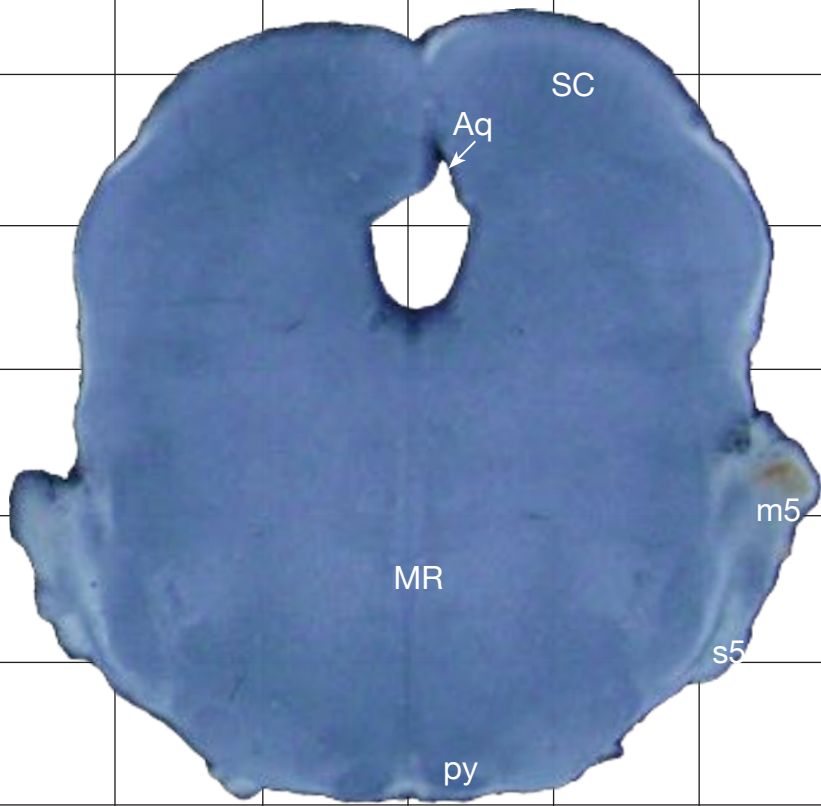
Bregma -4.80 mm
Lambda -0.60 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



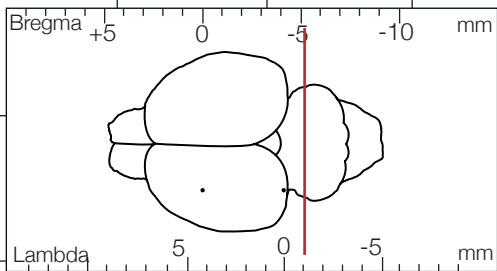
Rat P3 Figure 49



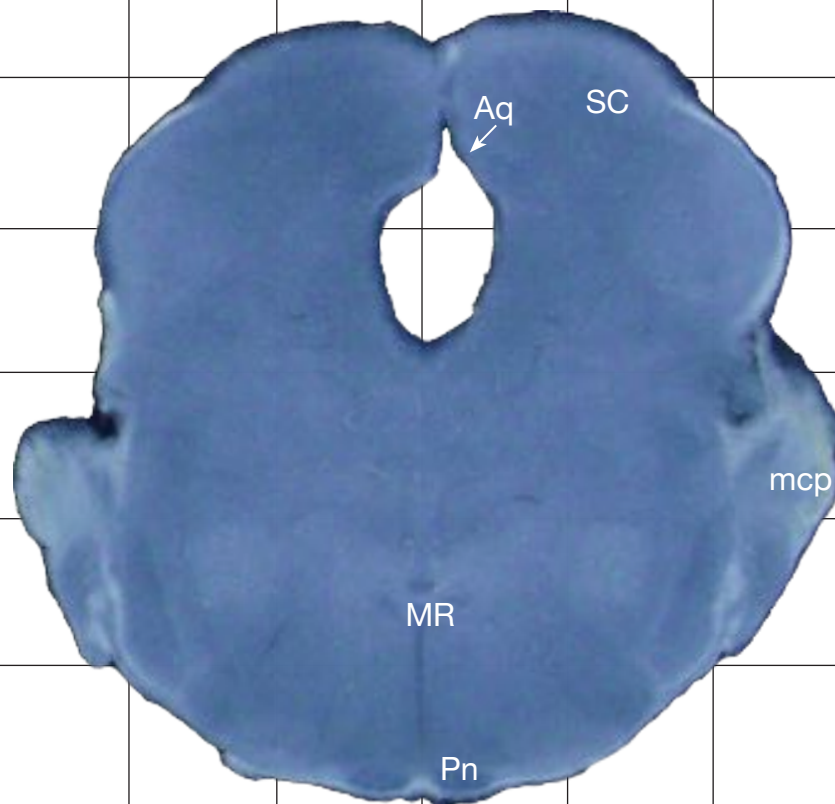
Bregma -5.00 mm
Lambda -0.80 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



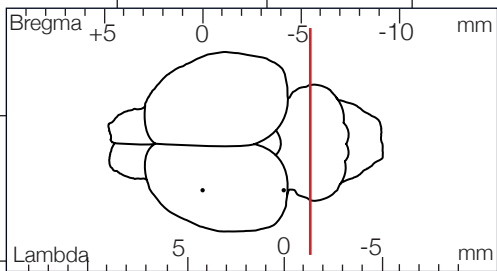
Rat P3 Figure 50



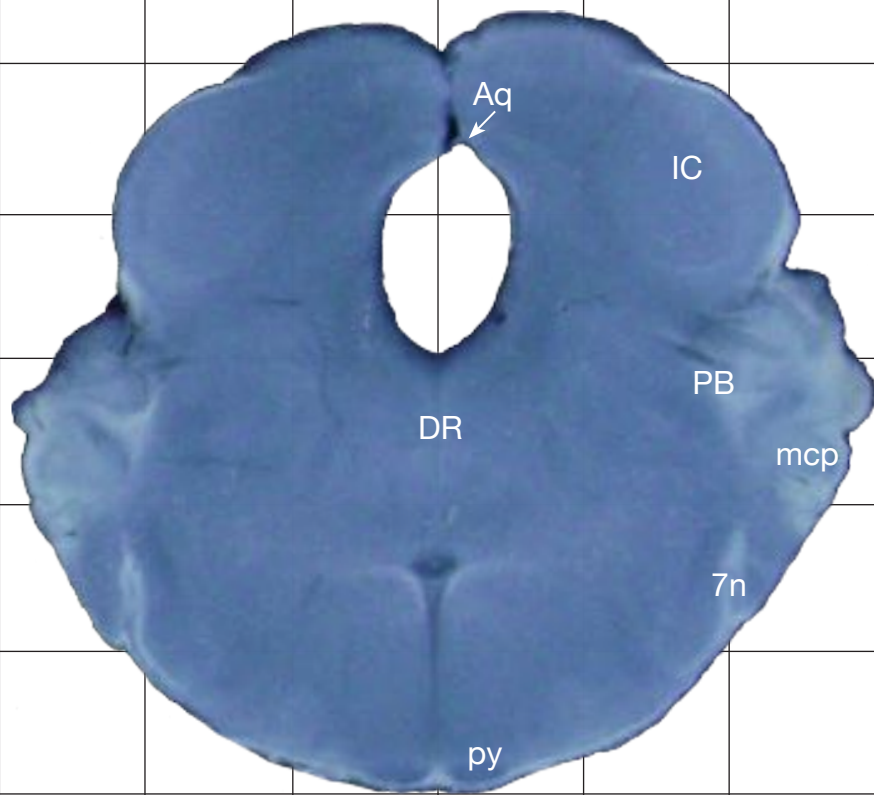
Bregma -5.20 mm
Lambda -1.00 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



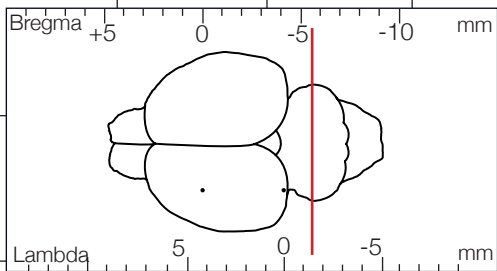
Rat P3 Figure 51



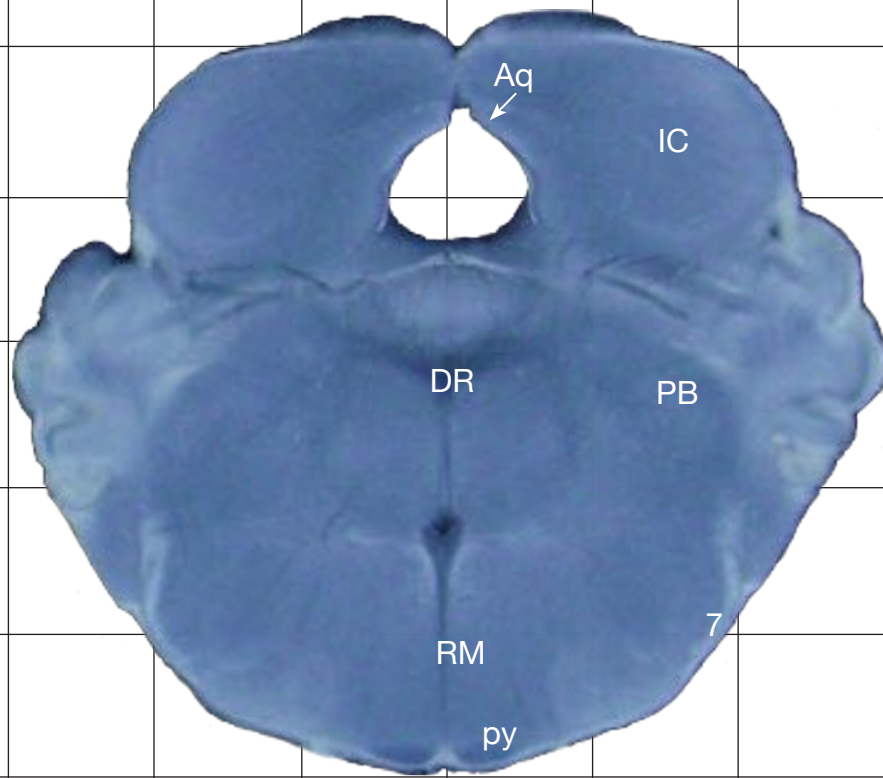
Bregma -5.40 mm
Lambda -1.20 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



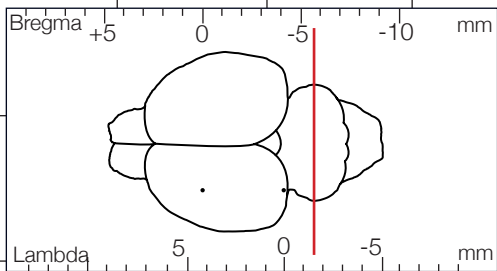
Rat P3 Figure 52



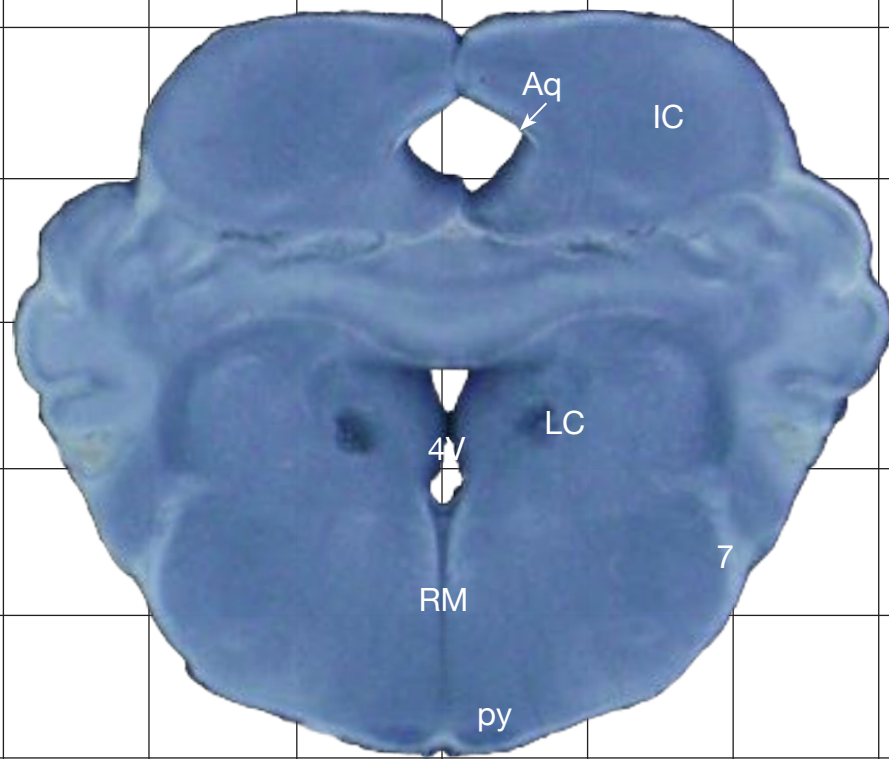
Bregma -5.60 mm
Lambda -1.40 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



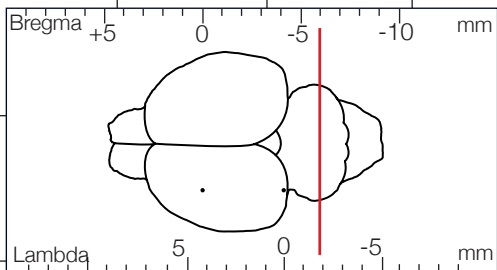
Rat P3 Figure 53



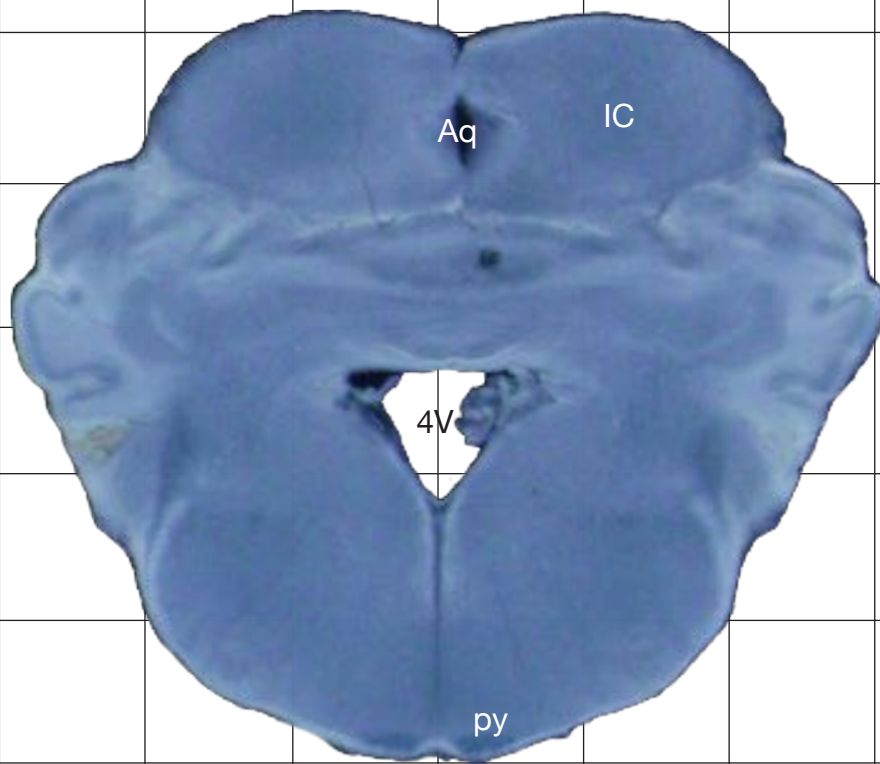
Bregma -5.80 mm
Lambda -1.60 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



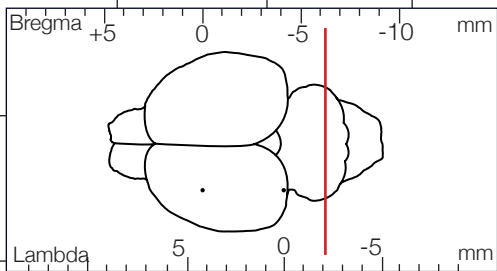
Rat P3 Figure 54



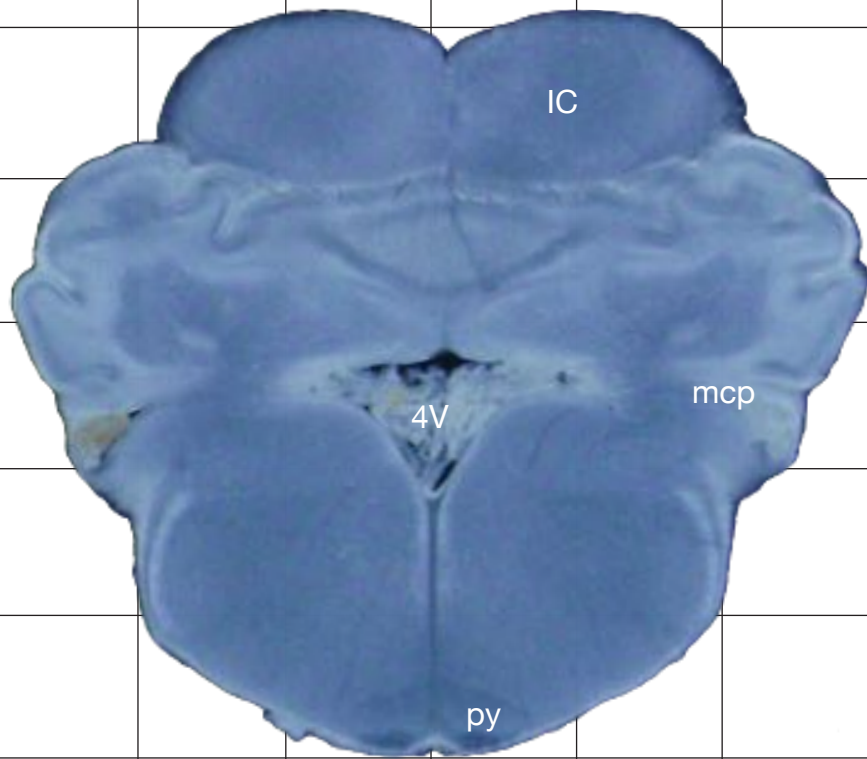
Bregma -6.00 mm
Lambda -1.80 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



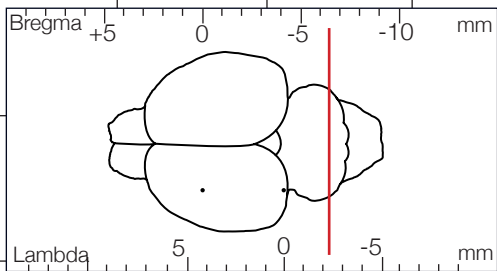
Rat P3 Figure 55



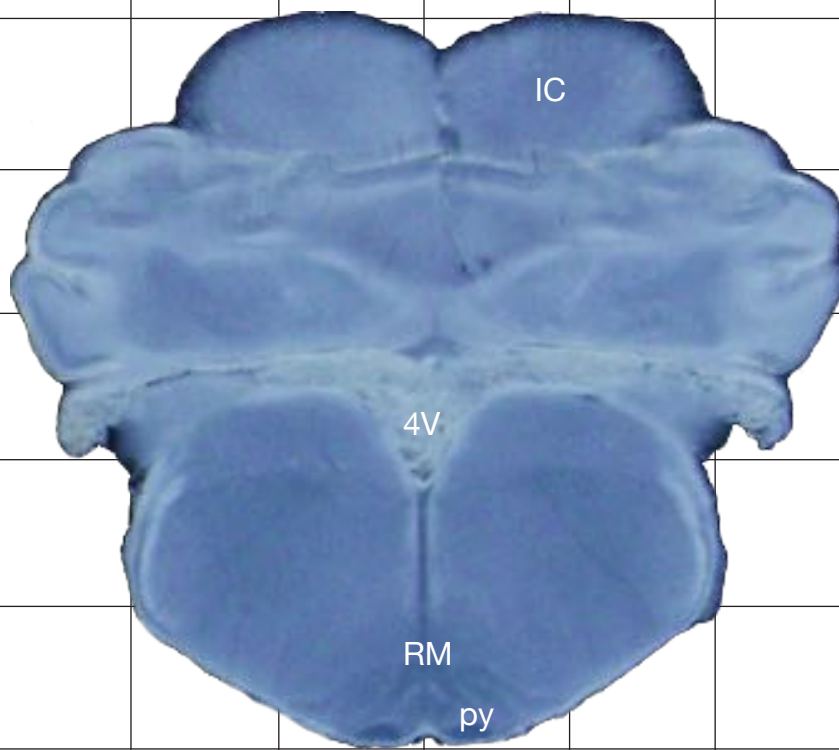
Bregma -6.20 mm
Lambda -2.00 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



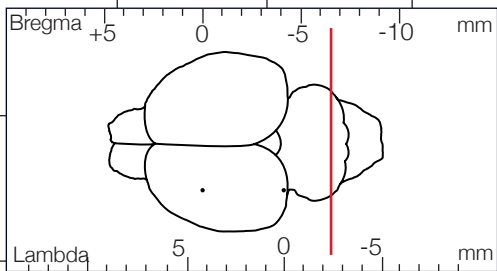
Rat P3 Figure 56



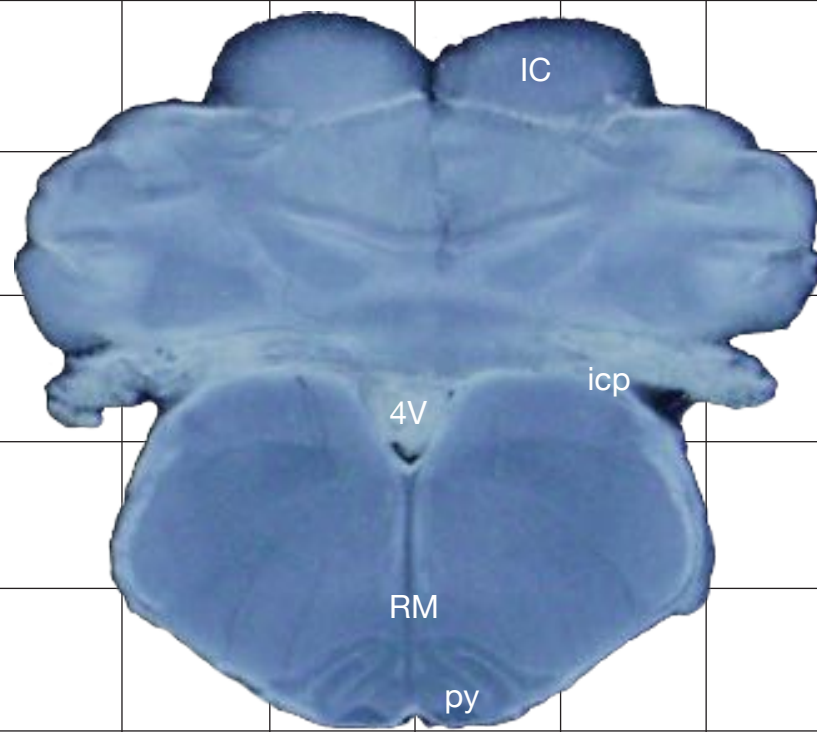
Bregma -6.40 mm
Lambda -2.20 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



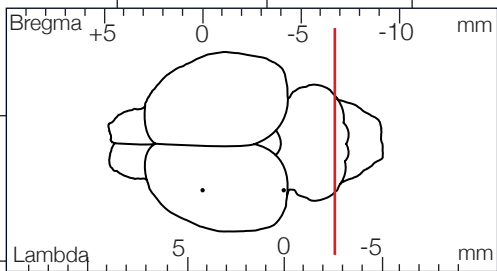
Rat P3 Figure 57



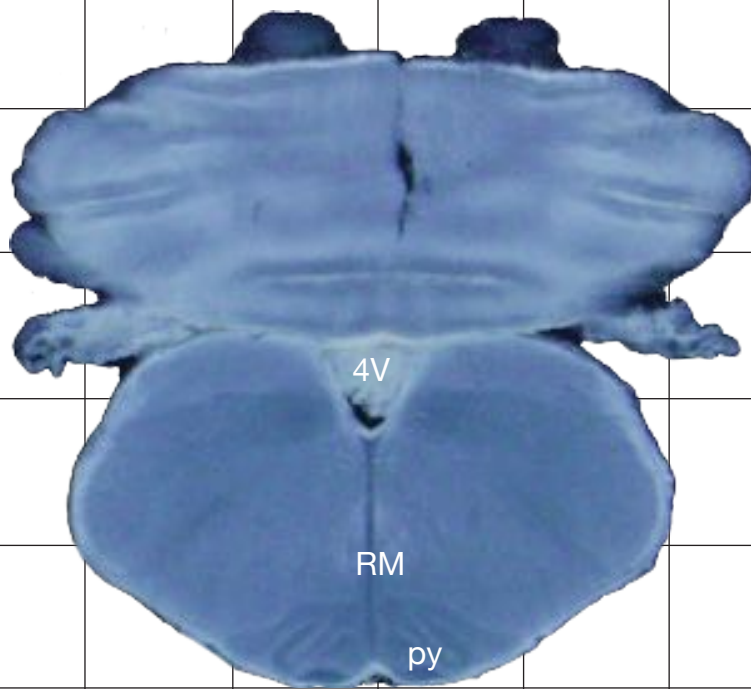
Bregma -6.60 mm
Lambda -2.40 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



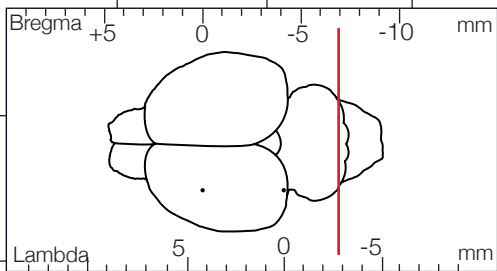
Rat P3 Figure 58



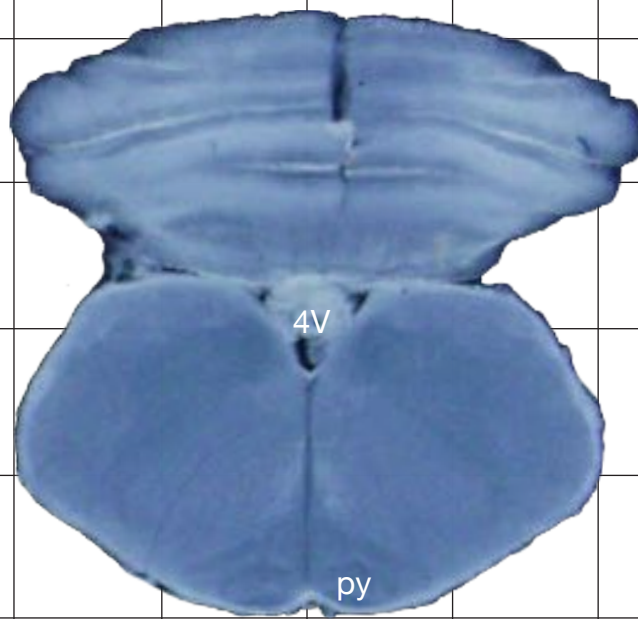
Bregma -6.80 mm
Lambda -2.60 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



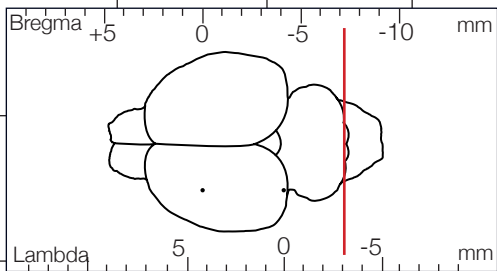
Rat P3 Figure 59



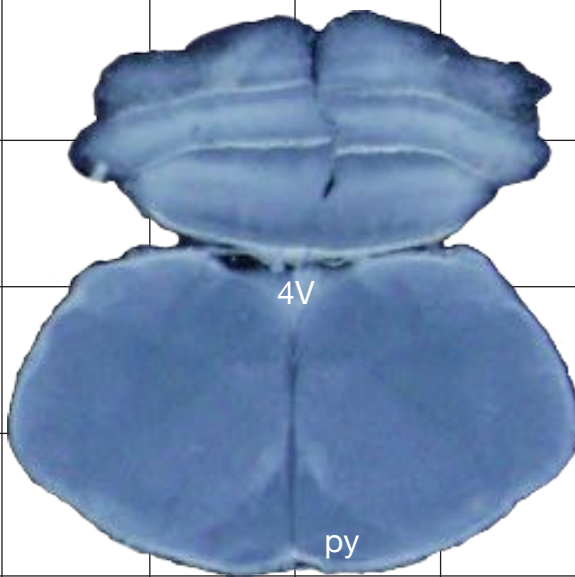
Bregma -7.00 mm
Lambda -2.80 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



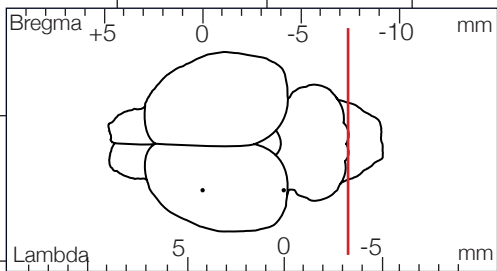
Rat P3 Figure 60



Bregma -7.20 mm
Lambda -3.00 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



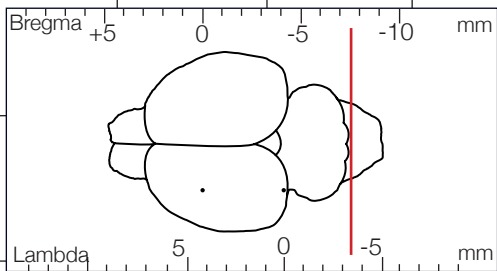
Rat P3 Figure 61



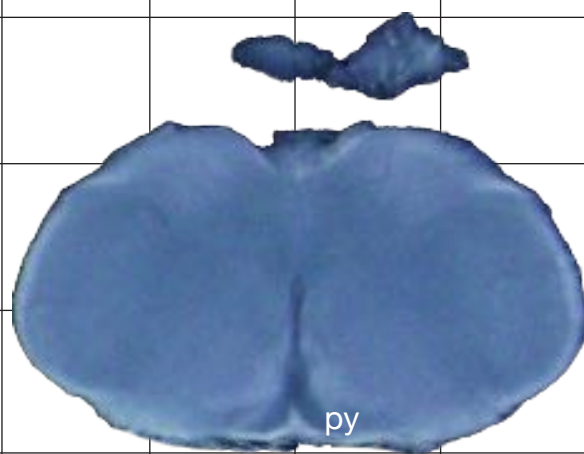
Bregma -7.40 mm
Lambda -3.20 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



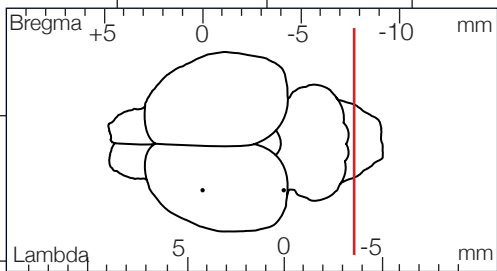
Rat P3 Figure 62



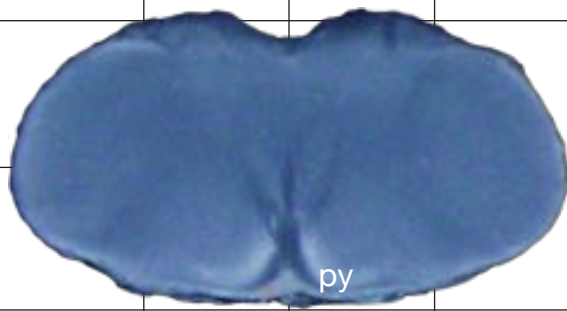
Bregma -7.60 mm
Lambda -3.40 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



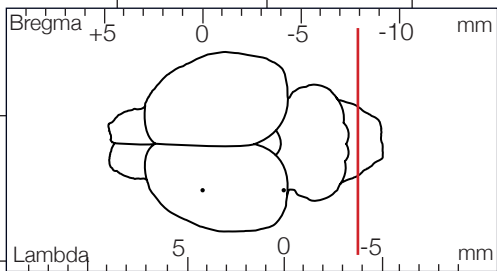
Rat P3 Figure 63



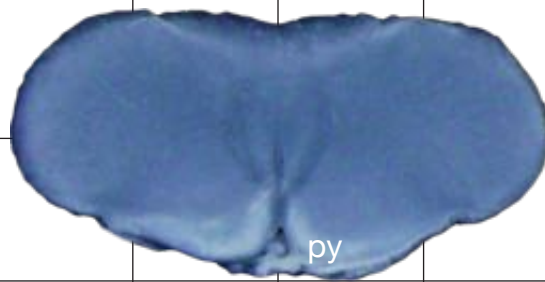
Bregma -7.80 mm
Lambda -3.60 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



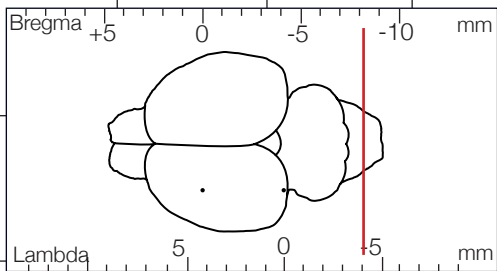
Rat P3 Figure 64



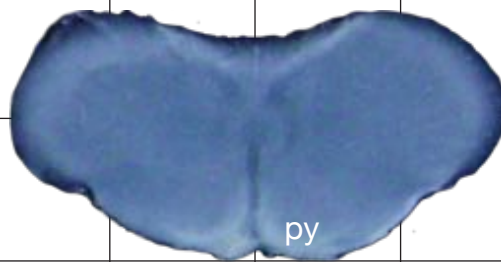
Bregma -8.00 mm
Lambda -3.80 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



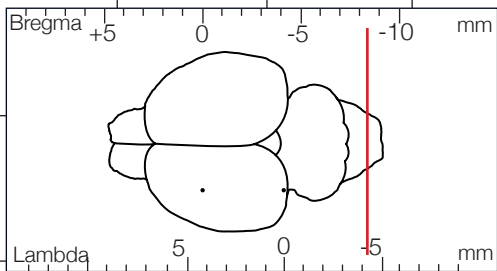
Rat P3 Figure 65



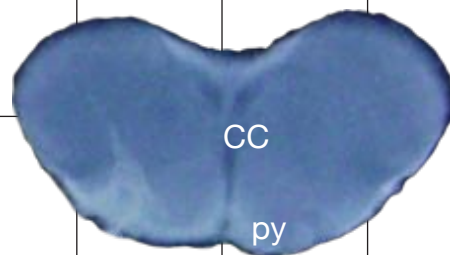
Bregma -8.20 mm
Lambda -4.00 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



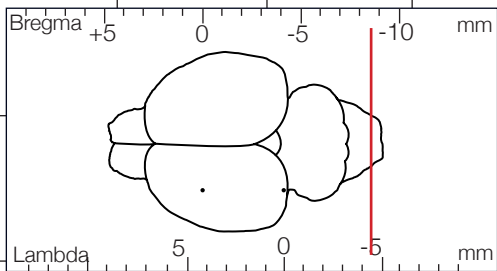
Rat P3 Figure 66



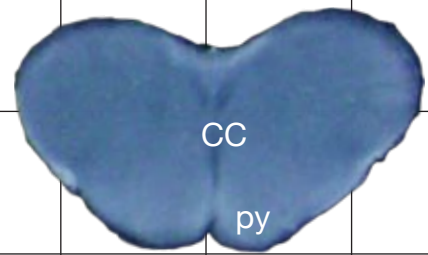
Bregma -8.40 mm
Lambda -4.20 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



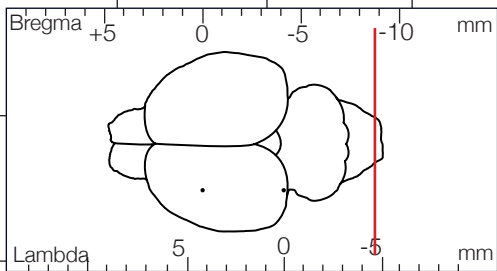
Rat P3 Figure 67



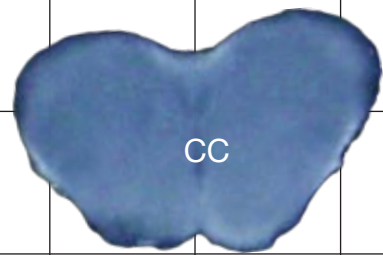
Bregma -8.60 mm
Lambda -4.40 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm



Rat P3 Figure 68



Bregma -8.80 mm
Lambda -4.60 mm

mm 6 5 4 3 2 1 0 1 2 3 4 5 6 mm