

**THE UNIVERSITY OF CONNECTICUT
Graduate School
Meds 384, Mammalian Neuroanatomy
Gross Anatomy of Cerebral Cortex**

Barr's: Chapters 13 & 16

INSTRUCTIONS

Here we will focus on the major subdivisions of the rat's cortex and compare it to the human cortex.

USE GLOVES WHEN HANDLING GROSS BRAIN SPECIMENS.

MENINGES

On the gross brain, identify:

Location of Sagittal Sinus

Arachnoid (If Present)

Location of Lateral Sinus

Dura Mater (If Present)

RAT TELENCEPHALON

On a whole rat brain, identify the telencephalon. How is the rat's cerebral hemisphere different in appearance from that of the human?

Identify:

Rhinal Fissure. ☆

Olfactory Bulb and Tract ☆

Medial and Lateral Olfactory Stria

Paleo Cortex ☆ – Olfactory Cortex & Entorhinal Cortex

Neocortex ☆

HUMAN TELENCEPHALON

On a whole brain, identify the telencephalon. What are the differences between a fissure, a gyrus, and a sulcus?

Lateral View:

Central sulcus (fissure)

Postcentral sulcus and gyrus

Lateral sulcus (fissure)

Insula: (gently open the lateral fissure slightly, look for it later on the brain slices).

Precentral gyrus and sulcus

Identify the major lobes of the cerebral cortex:

1. Frontal lobe ☆ Occupies the frontal pole. Anterior to central fissure; dorsal to lateral fissure.

2. Occipital lobe ☆ Occupies the occipital pole. Draw a line between the parieto-occipital sulcus and the pre-occipital notch. The occipital pole is posterior to this line.
3. Parietal lobe ☆ Caudal to the central fissure and rostral to the occipital lobe.
4. Temporal lobe ☆ Ventral to the lateral fissure and anterior to the preoccipital notch.

Basal View

On a whole brain, identify:
 olfactory bulb and tract
 medial and lateral olfactory stria

collateral sulcus
 parahippocampal gyrus
 uncus

Ventricular System

Use brain slices and a cast of the ventricular system to identify:

Lateral ventricle
 third ventricle
 Aqueduct

Fourth ventricle
 Interventricular foramen

Medial View

Identify on the half brain:
 corpus callosum ☆

parieto-occipital sulcus central fissure ☆
 calcarine fissure ☆

MEDIAL VIEW OF THE RAT BRAIN - With aid of the instructor, split a brain in half with string. Compare to a medial view of the human brain. On the medial surface of the half brain, identify the diencephalon, mesencephalon, pons, and medulla.

Identify:

Third Ventricle ☆
 Superior Colliculus ☆
 Inferior Colliculus ☆
 Optic Chiasm ☆
 Pituitary Stalk ☆
 Cerebral Peduncle ☆
 Aqueduct of Sylvius ☆
 Corpus Callosum ☆
 Lamina Terminalis
 Septal Area

Fourth Ventricle ☆
 Pontine Protuberance ☆
 Mammillary Body
 Massa Intermedia
 Septum Pellucidum
 Pineal Body
 Fornix
 Interventricular Foramen (Of Monro)