

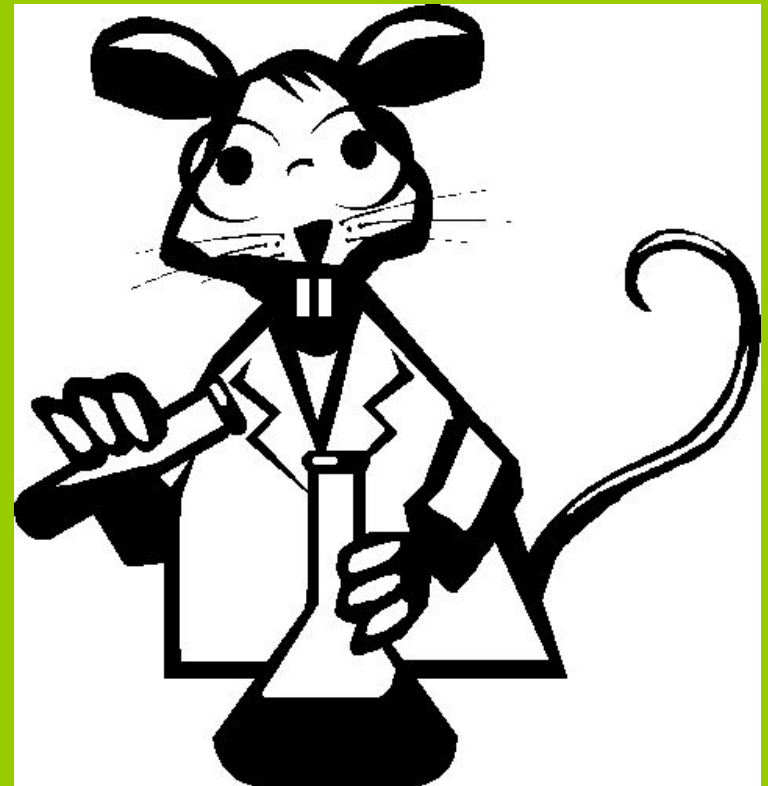


Rat Dissection

RATS



- The following slides are intended to help you with dissection of the rat and then to review for the lab practical that will follow.





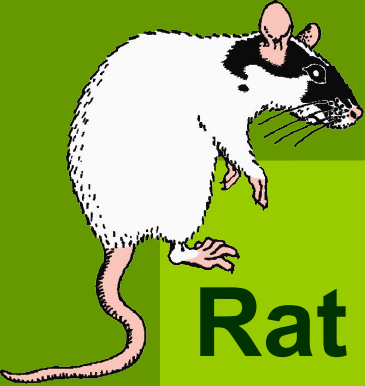
Rat Dissection

RATS



- Scientific Name:
Rattus norvegicus
- Common Name: Rat
- Kingdom- Animalia
- Phylum- Chordata
- Subphylum- Vertebrata
- Class- Mammalia
- Order- Rodentia





Rat Dissection

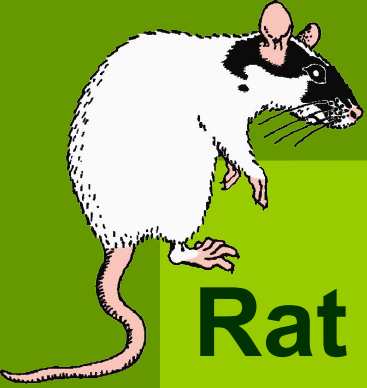
SOURCES



- The following web sites were used to obtain various dissection pictures.

- (1) http://www.umanitoba.ca/faculties/science/biological_sciences/lab_15/biolab15_1.html
- (2) <http://www.gisbornesc.vic.edu.au/home/jans/home/rat.htm>
- (3) http://www.biologycorner.com/bio3/rat_guide.html
- (4) <http://www.biologymad.com/ratphotos/ratphotos.htm>
- (5) http://www.baa.duke.edu/companat/BAA_289L_2004/heart/Rat/rat_thorax.htm
- (6) <http://instruct1.cit.cornell.edu/courses/biog105/images/ratpics/unit6/>
- (7) <http://www.victoriacollege.edu/dept/bio/RatDissection/index.htm>
This has an excellent self quiz!

Urogenital Tutorial- <http://www.biolsci.monash.edu.au/undergrad/erat/index.html>

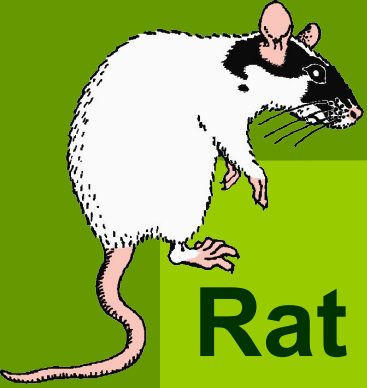


Rat Dissection

REMOVING SKIN



Source #4

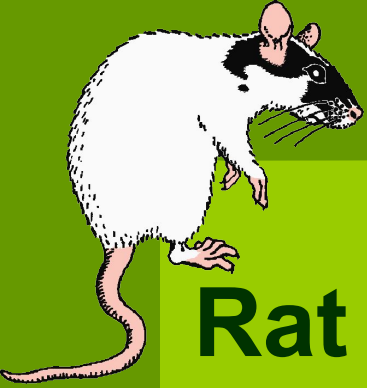


Rat Dissection

REMOVING SKIN



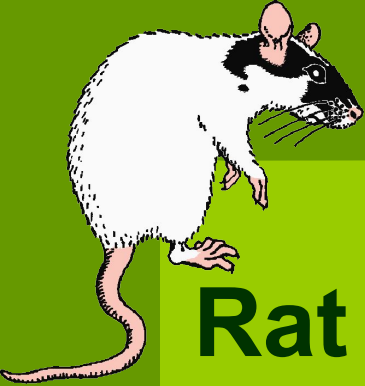
Source #7



Rat Dissection

REMOVING SKIN



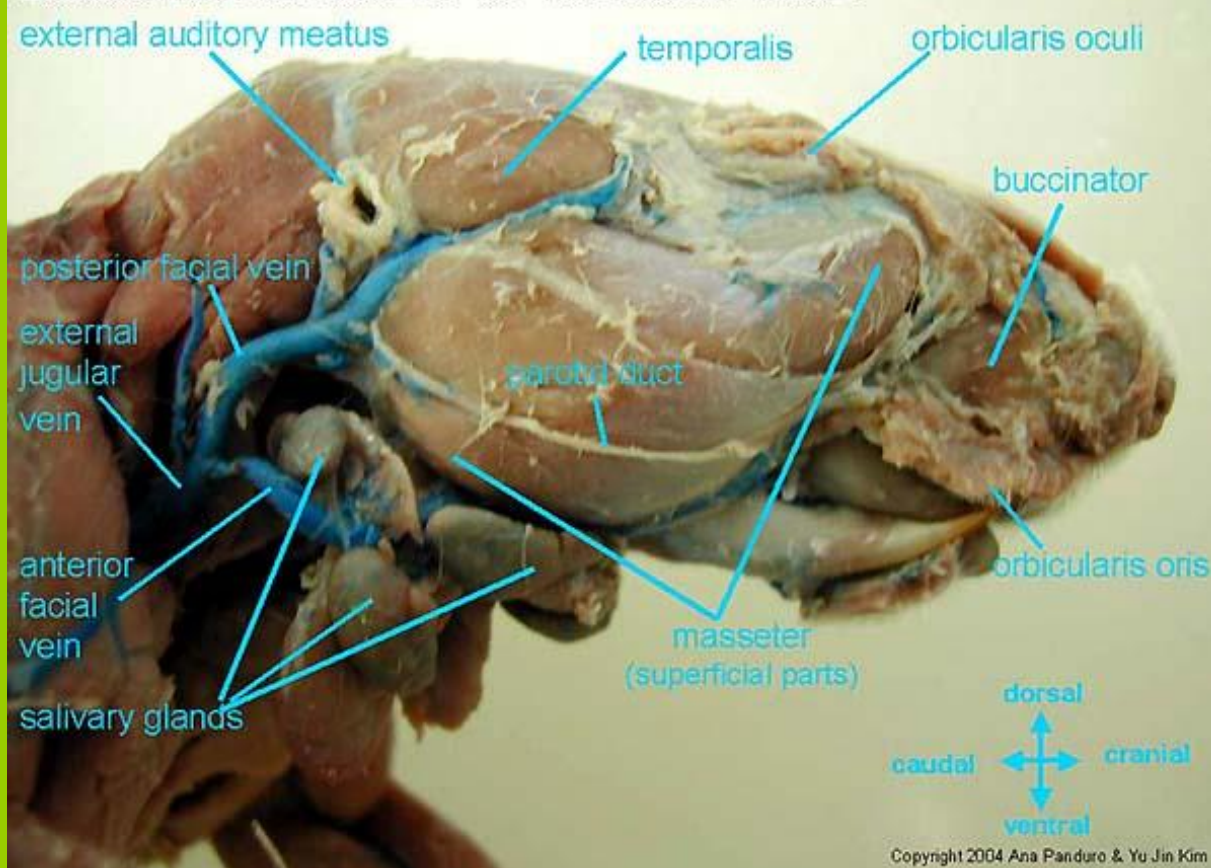


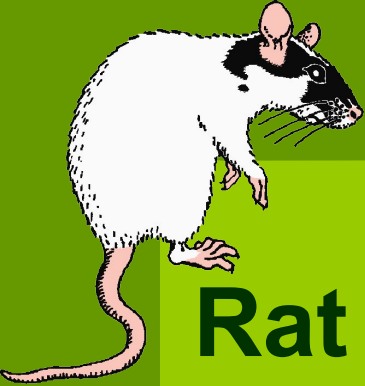
Rat Dissection

MUSCLES



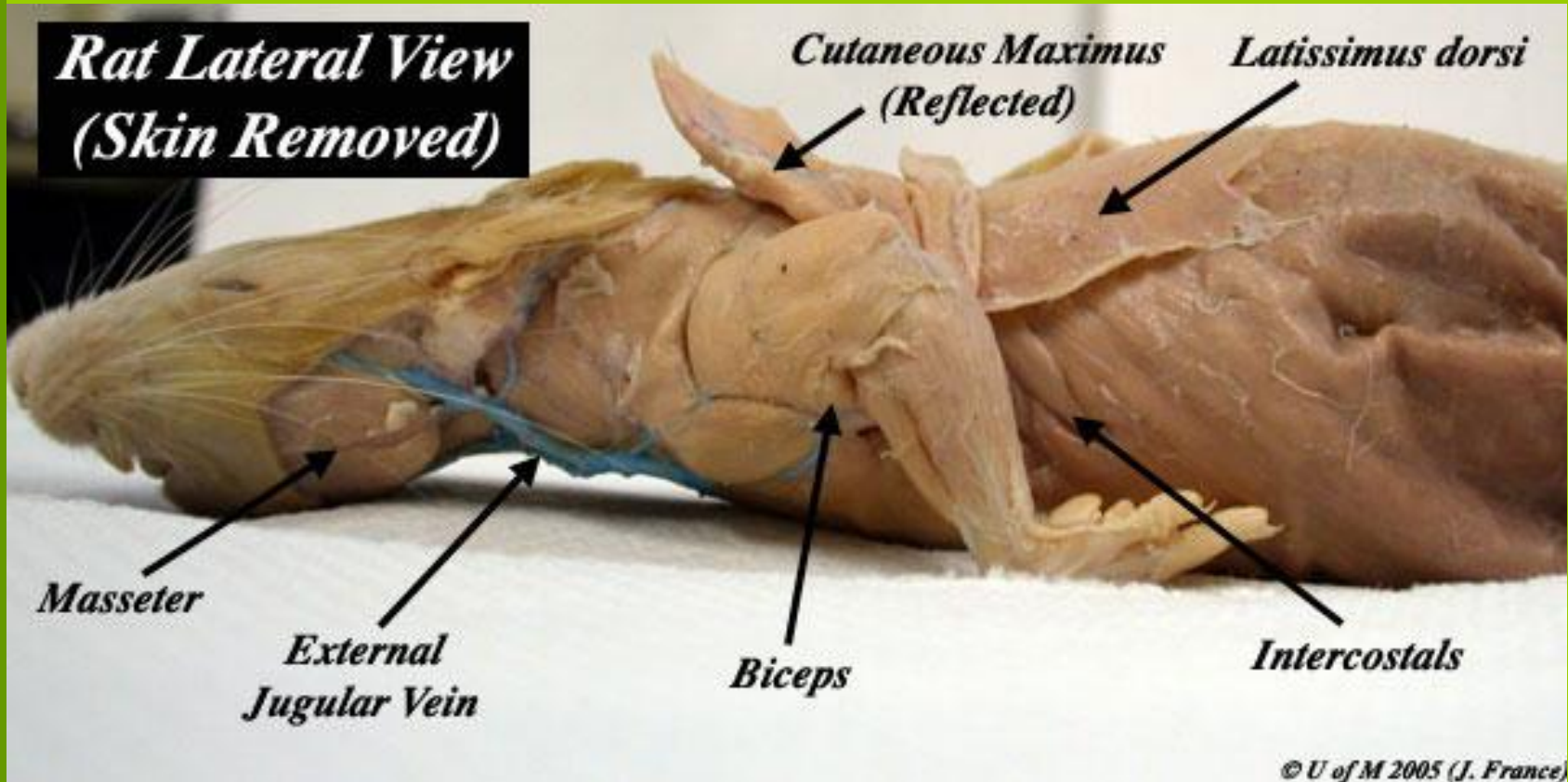
BRANCHIAL MUSCLES OF THE RIGHT FACE

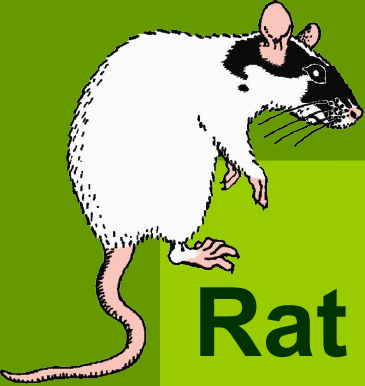




Rat Dissection

MUSCLES



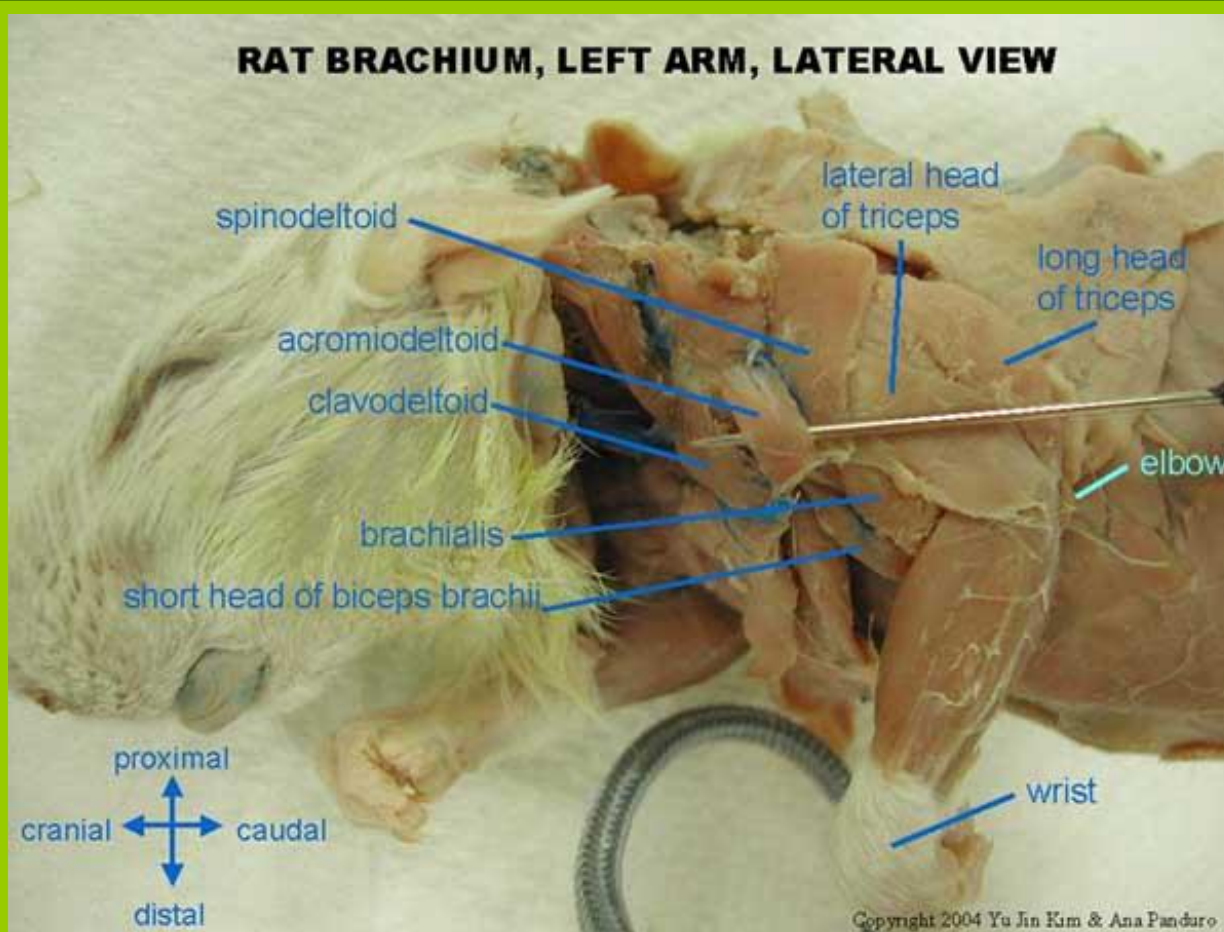


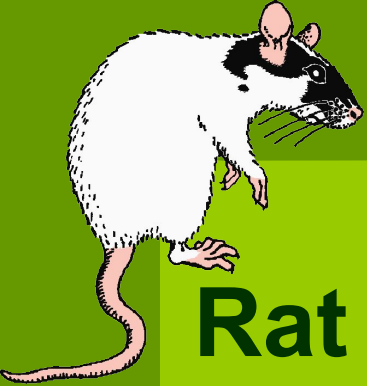
Rat Dissection

MUSCLES



RAT BRACHIUM, LEFT ARM, LATERAL VIEW

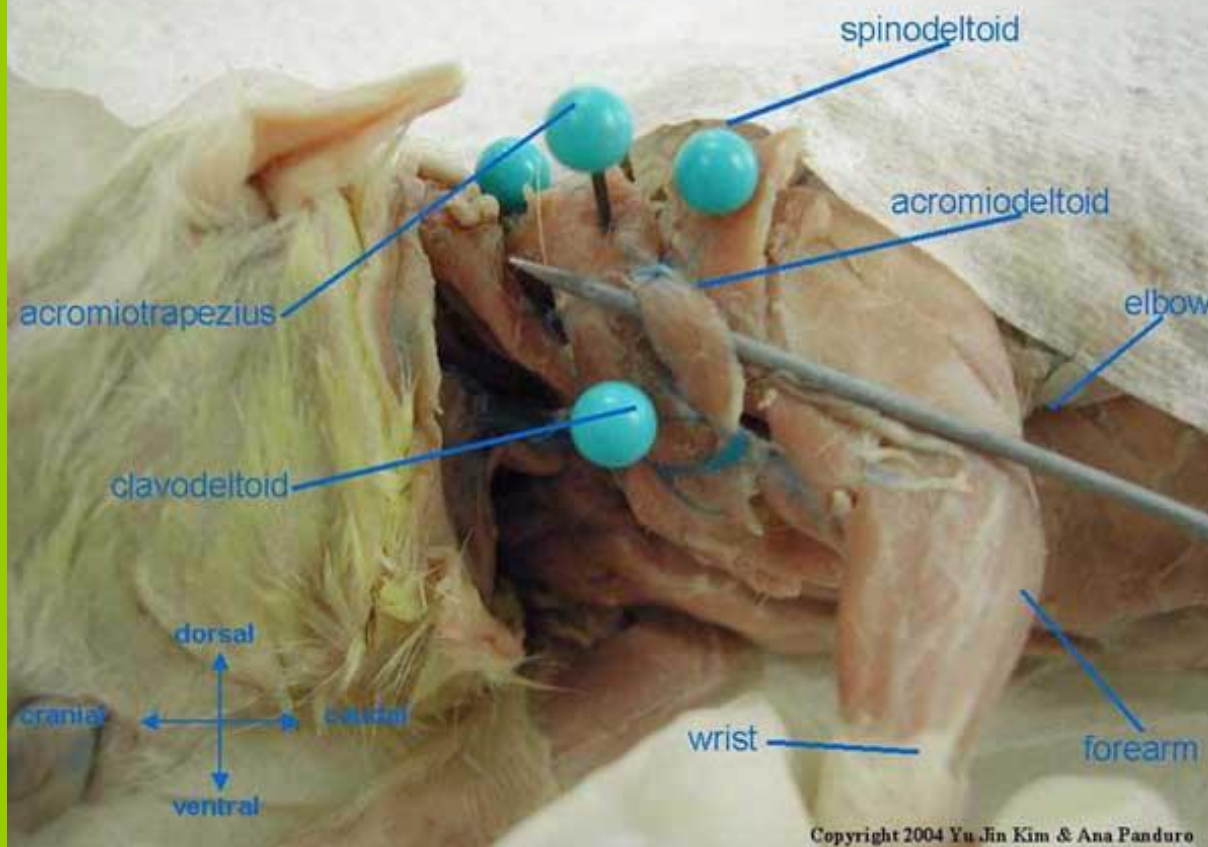


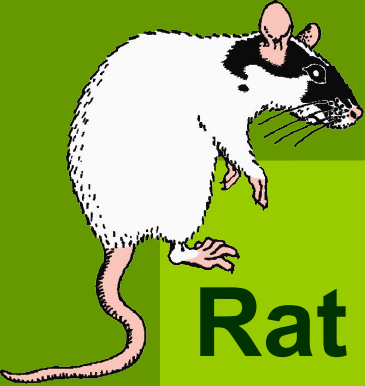


Rat Dissection

MUSCLES

SUPERFICIAL SHOULDER MUSCLES: DELTOIDS AND TRAPEZIUS



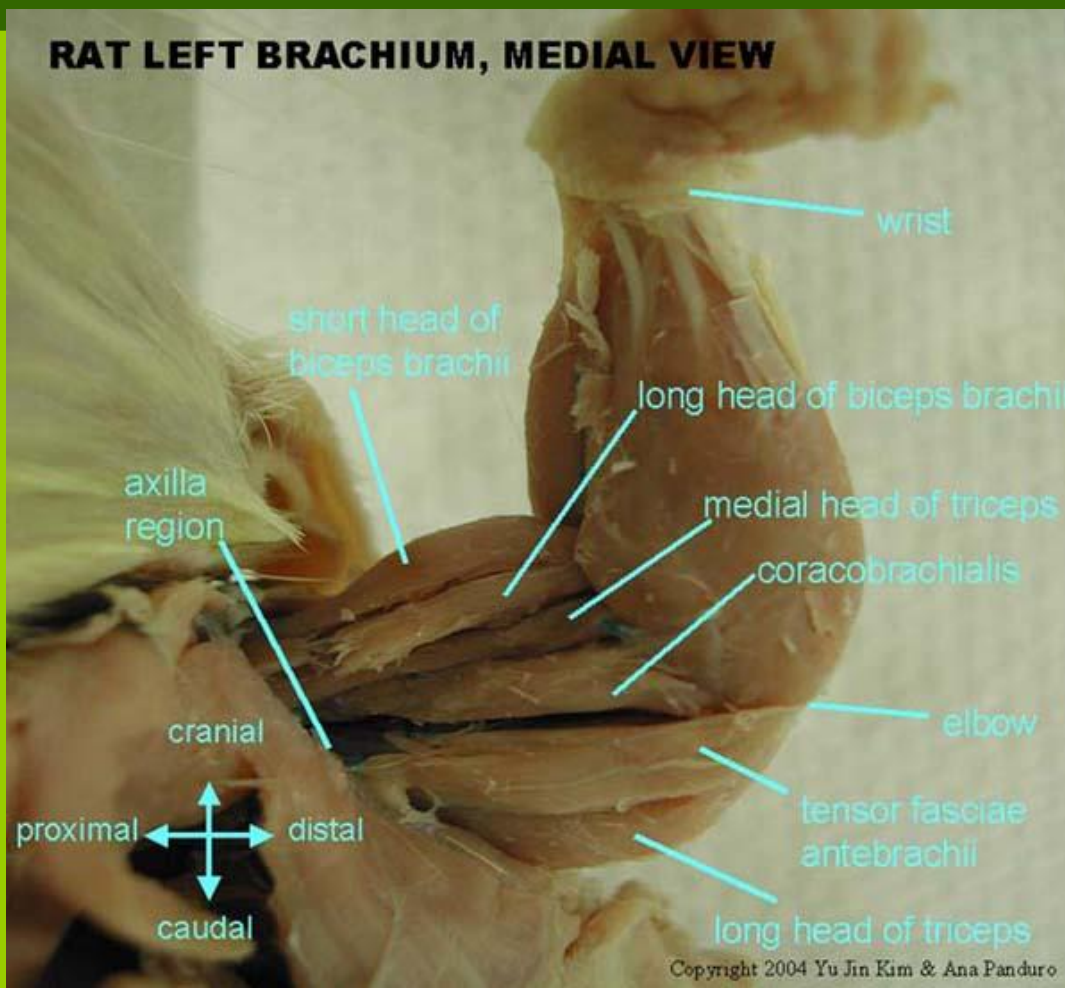


Rat Dissection

MUSCLES

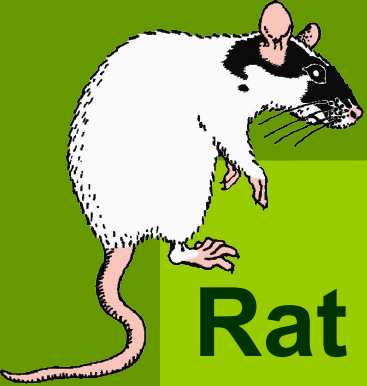


RAT LEFT BRACHIUM, MEDIAL VIEW



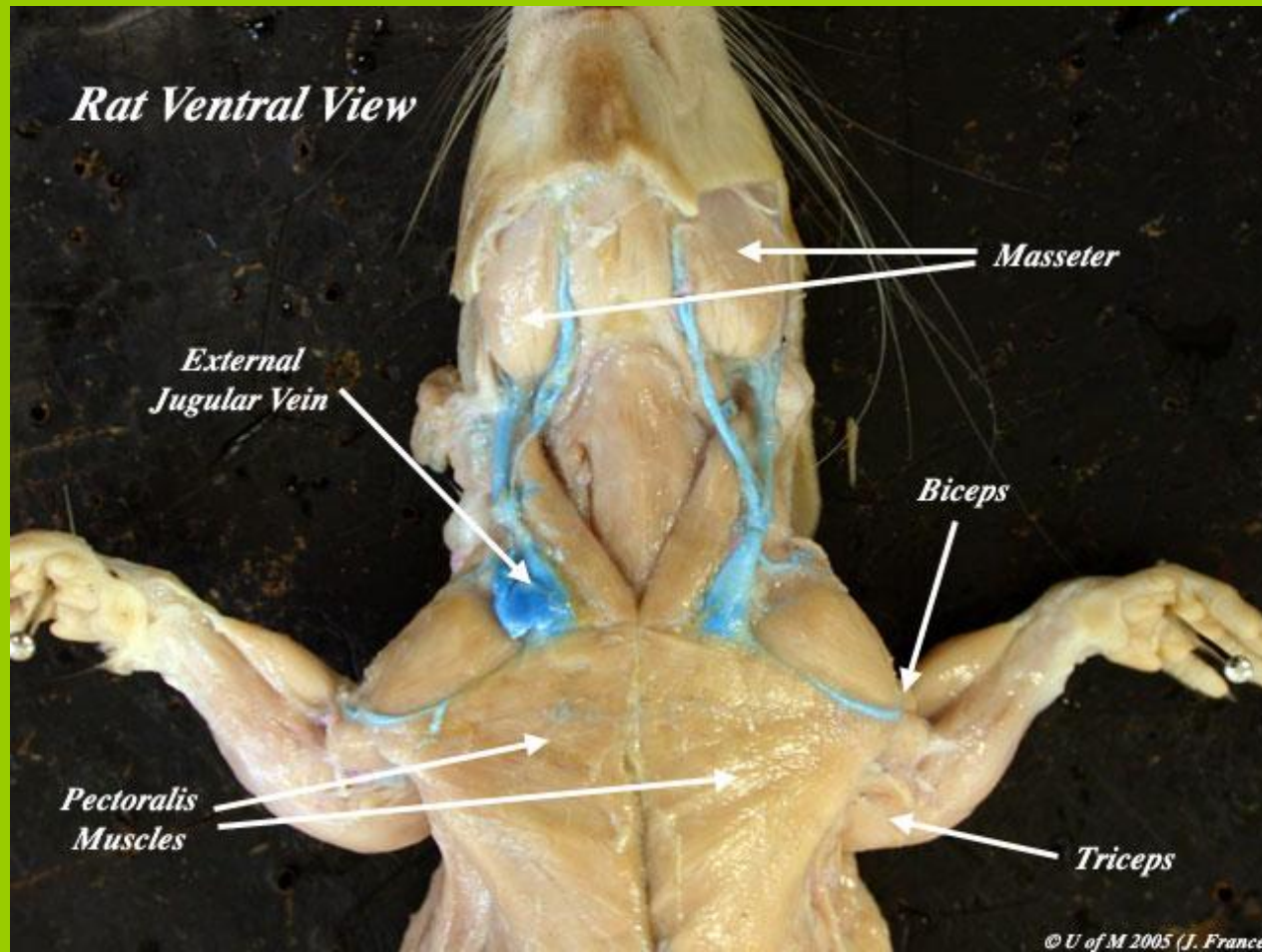
Copyright 2004 Yu Jin Kim & Ana Panduro

Source #5

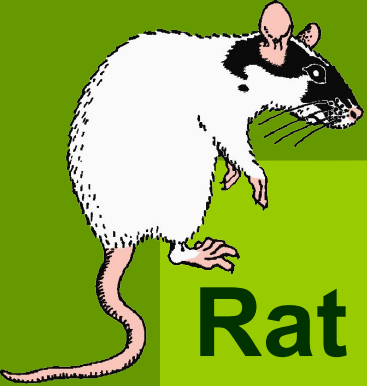


Rat Dissection

MUSCLES



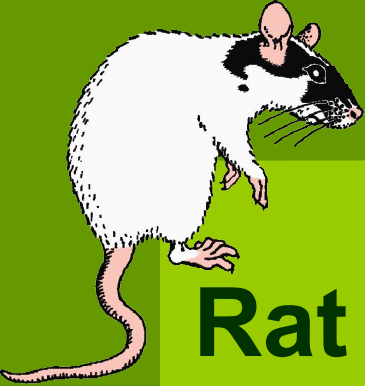
Source #1



Rat Dissection

MUSCLES



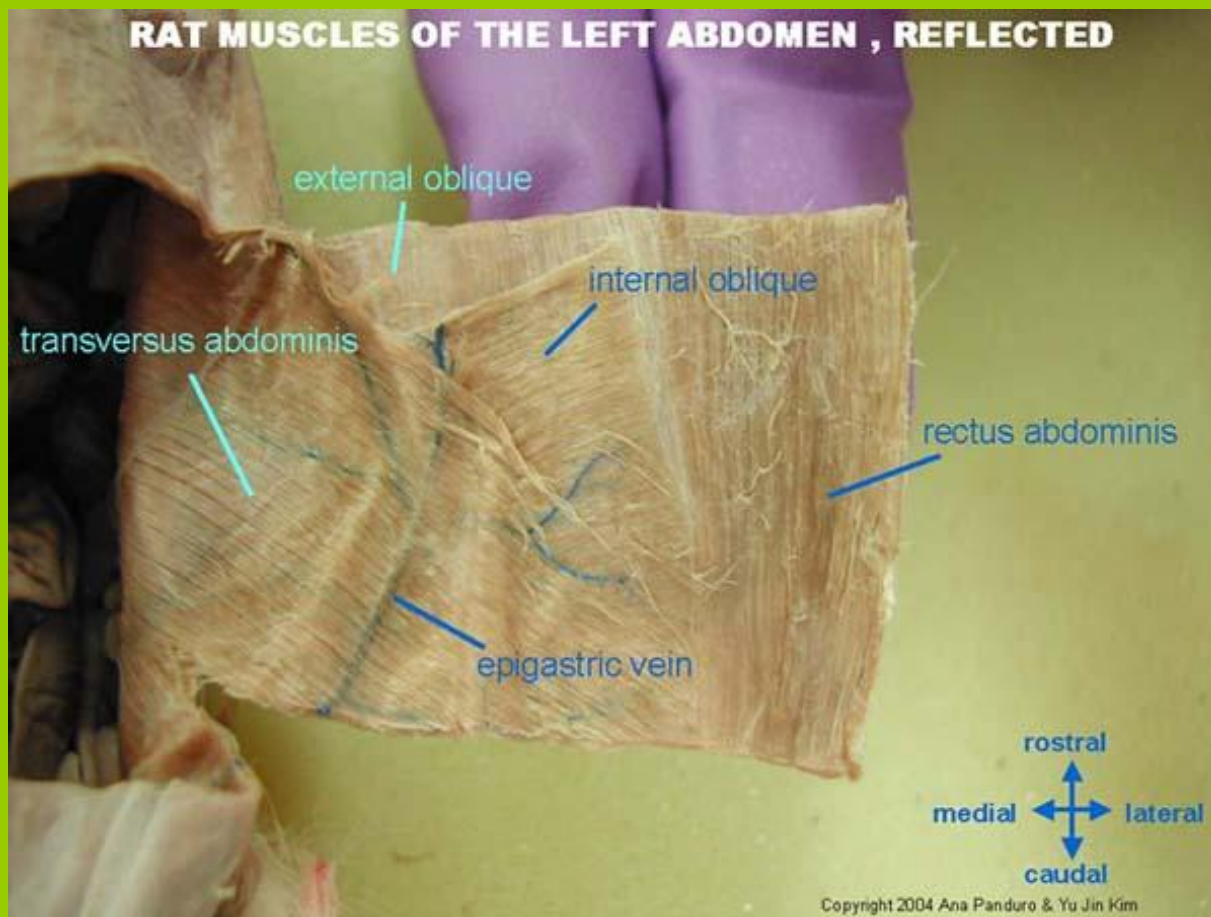


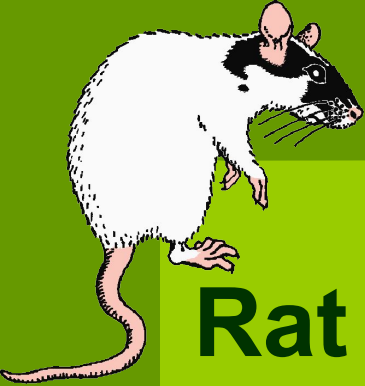
Rat Dissection

MUSCLES



RAT MUSCLES OF THE LEFT ABDOMEN , REFLECTED

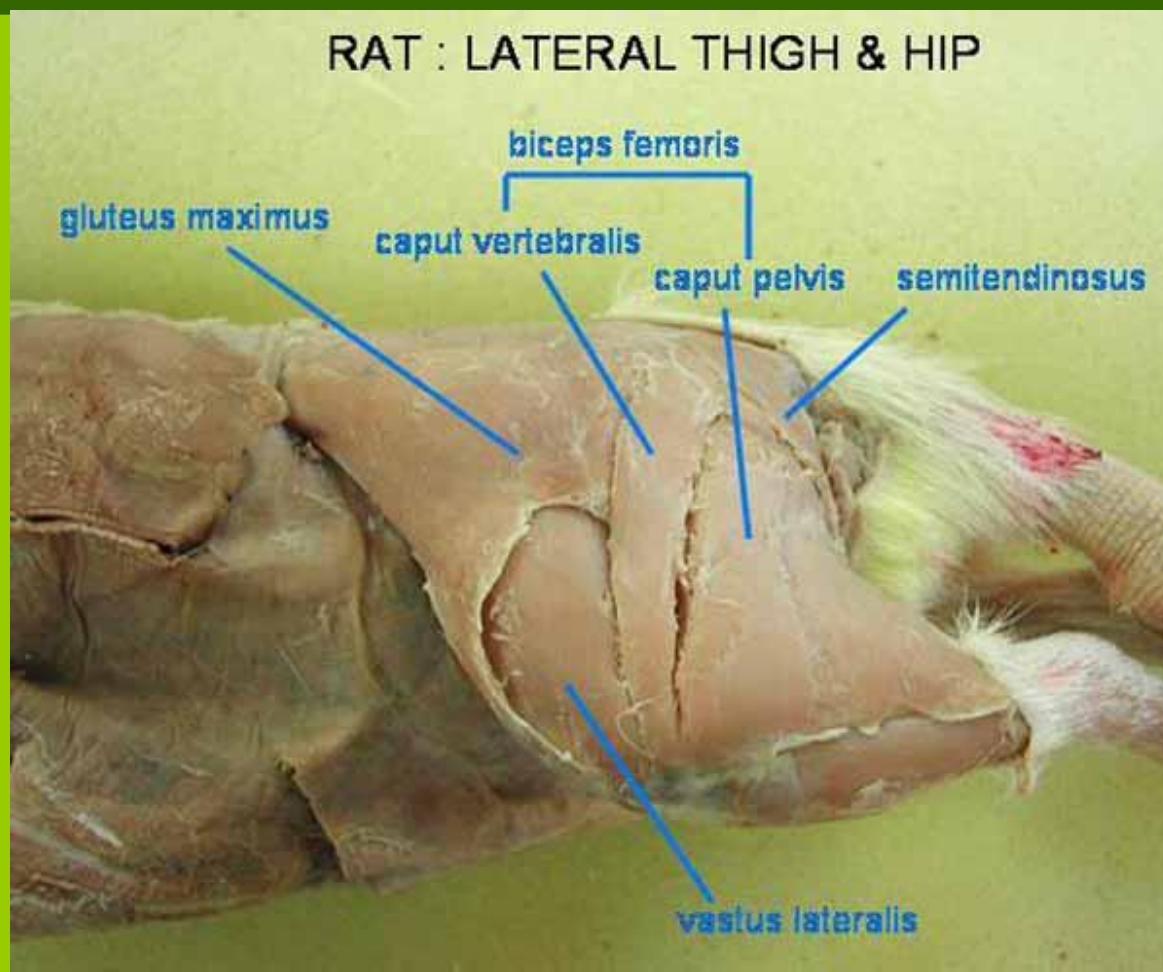


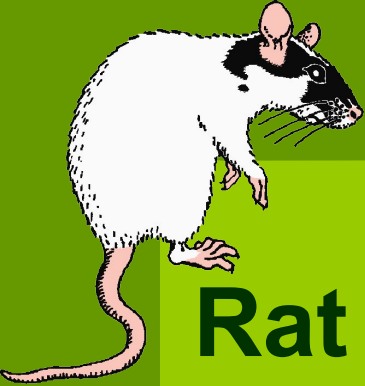


Rat Dissection

MUSCLES

RAT : LATERAL THIGH & HIP



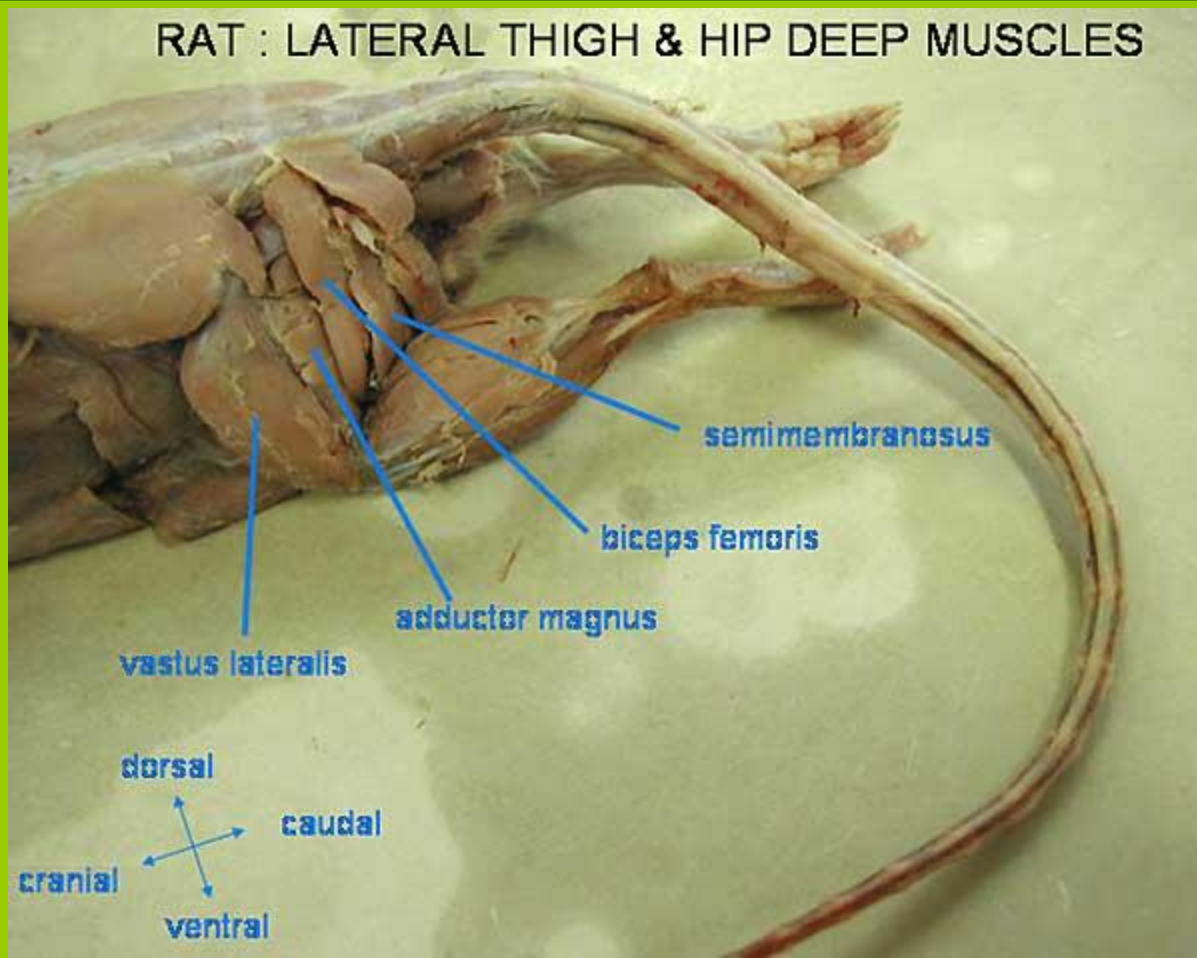


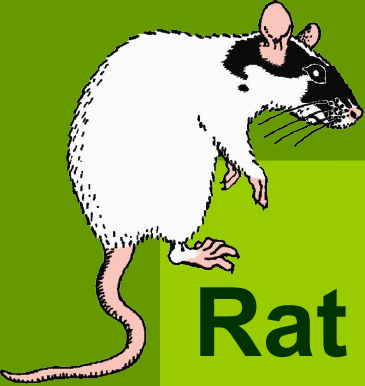
Rat Dissection

MUSCLES



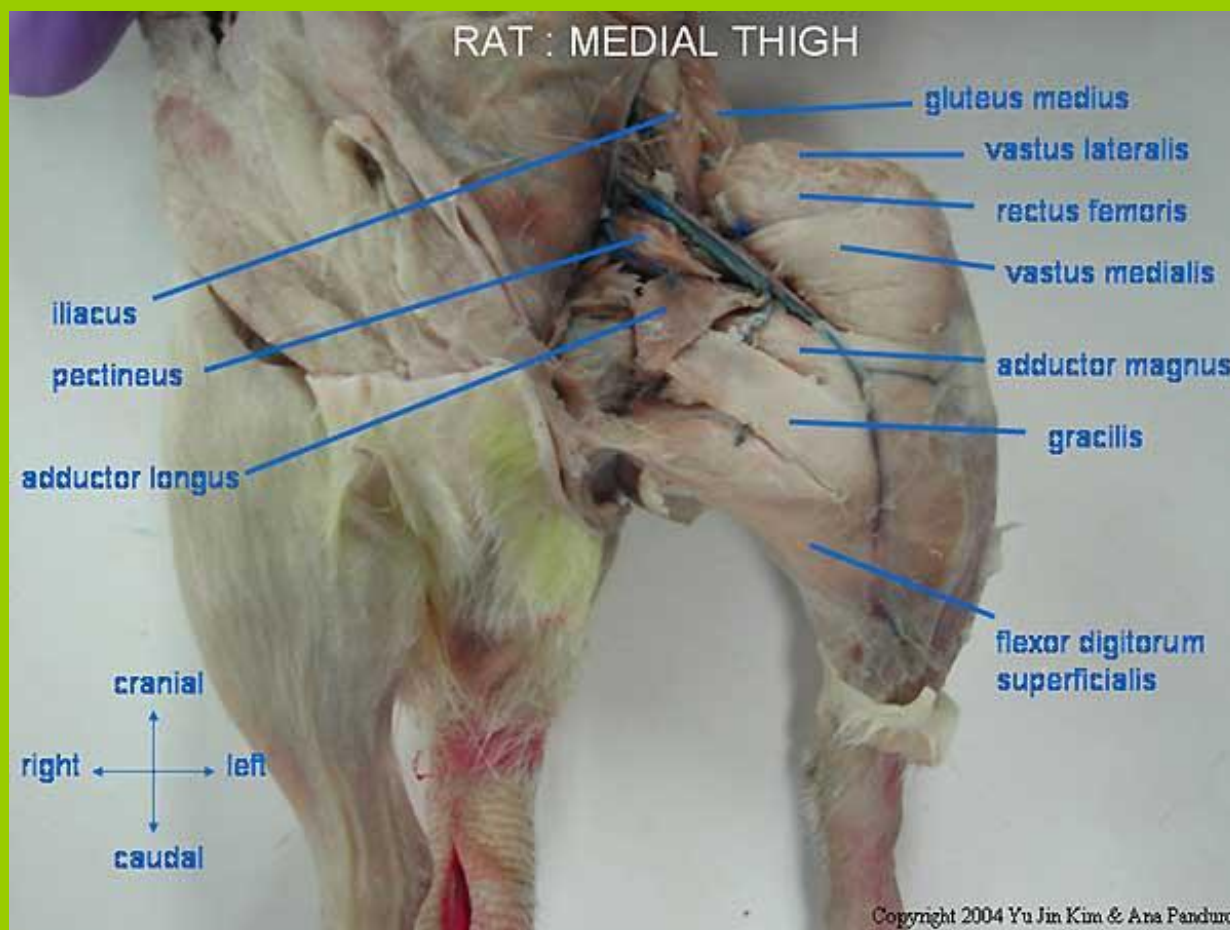
RAT : LATERAL THIGH & HIP DEEP MUSCLES

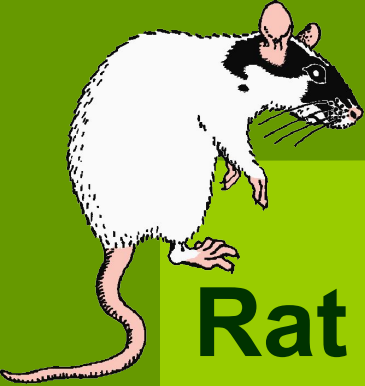




Rat Dissection

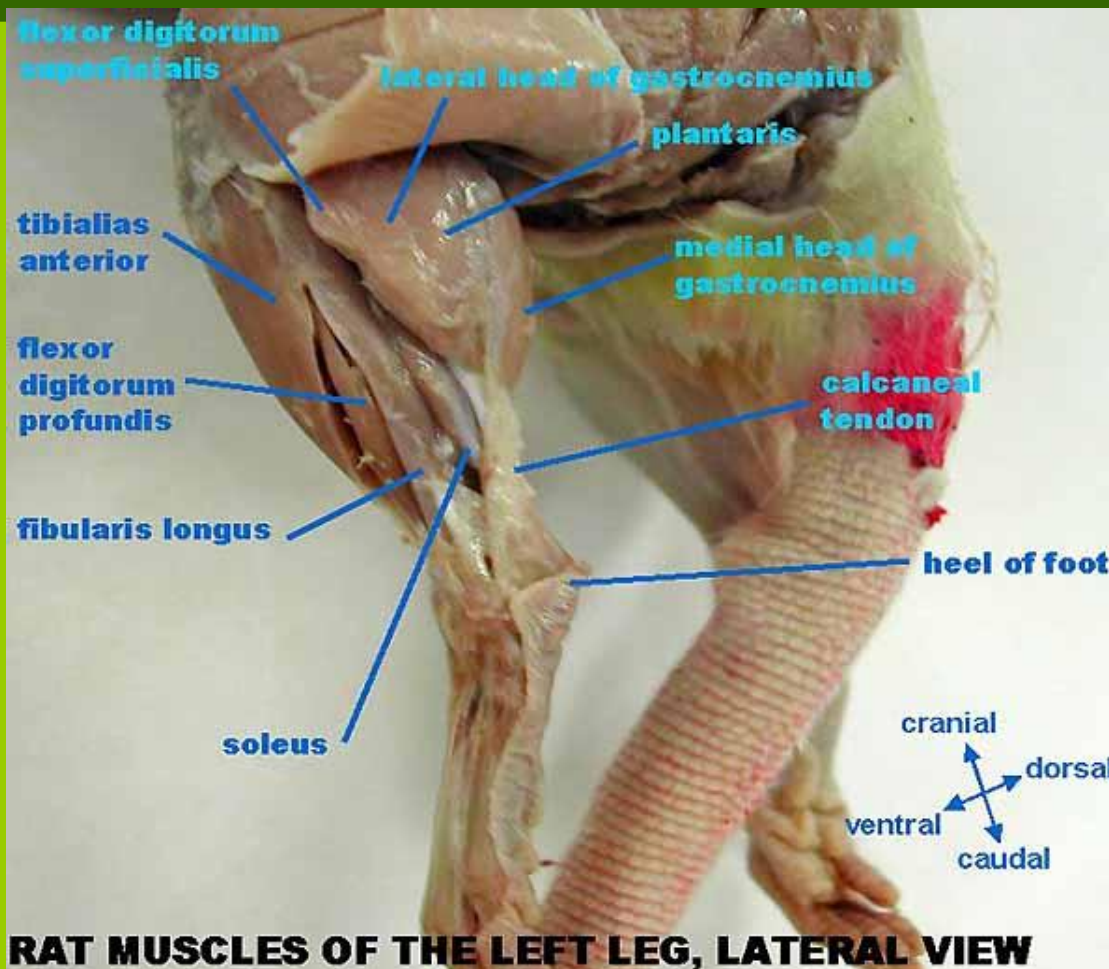
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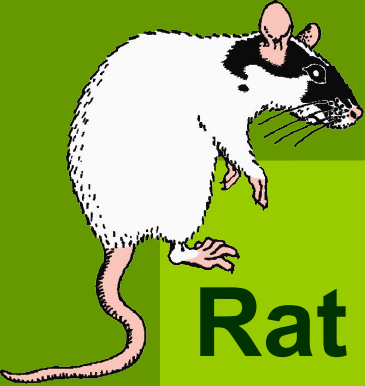




Rat Dissection

MUSCLES



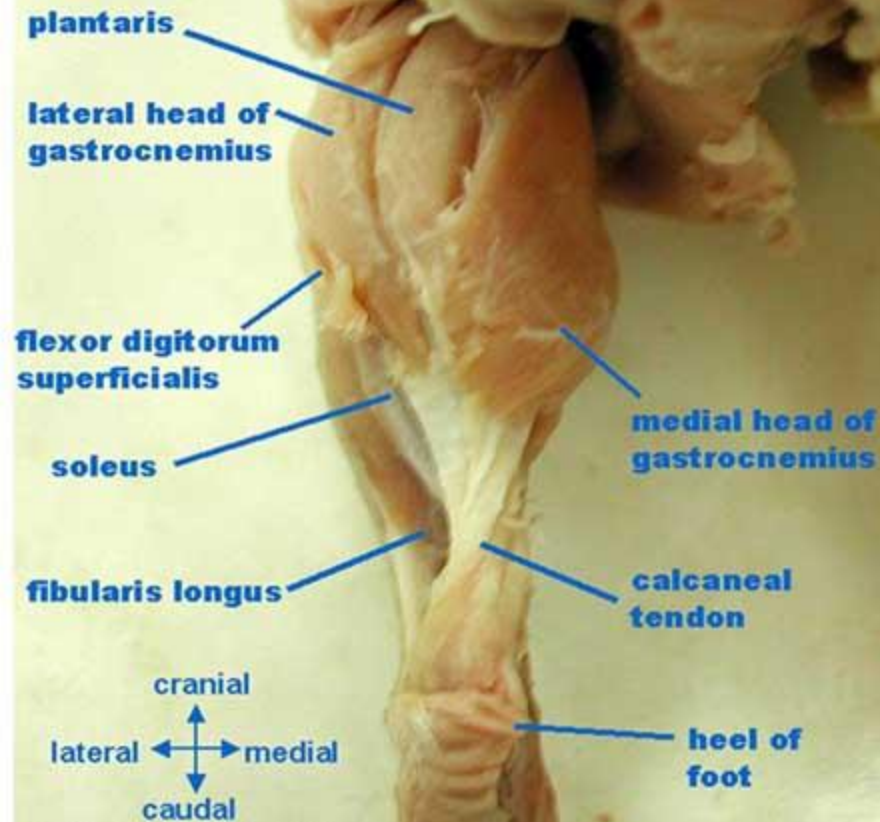


Rat Dissection

MUSCLES

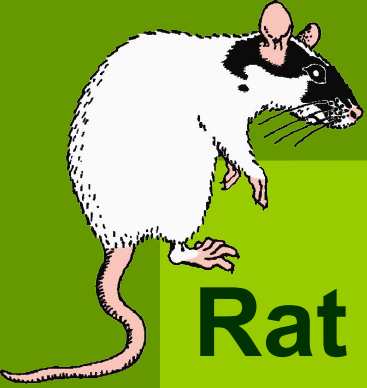


RAT MUSCLES OF THE LEFT LEG, POSTERIOR VIEW



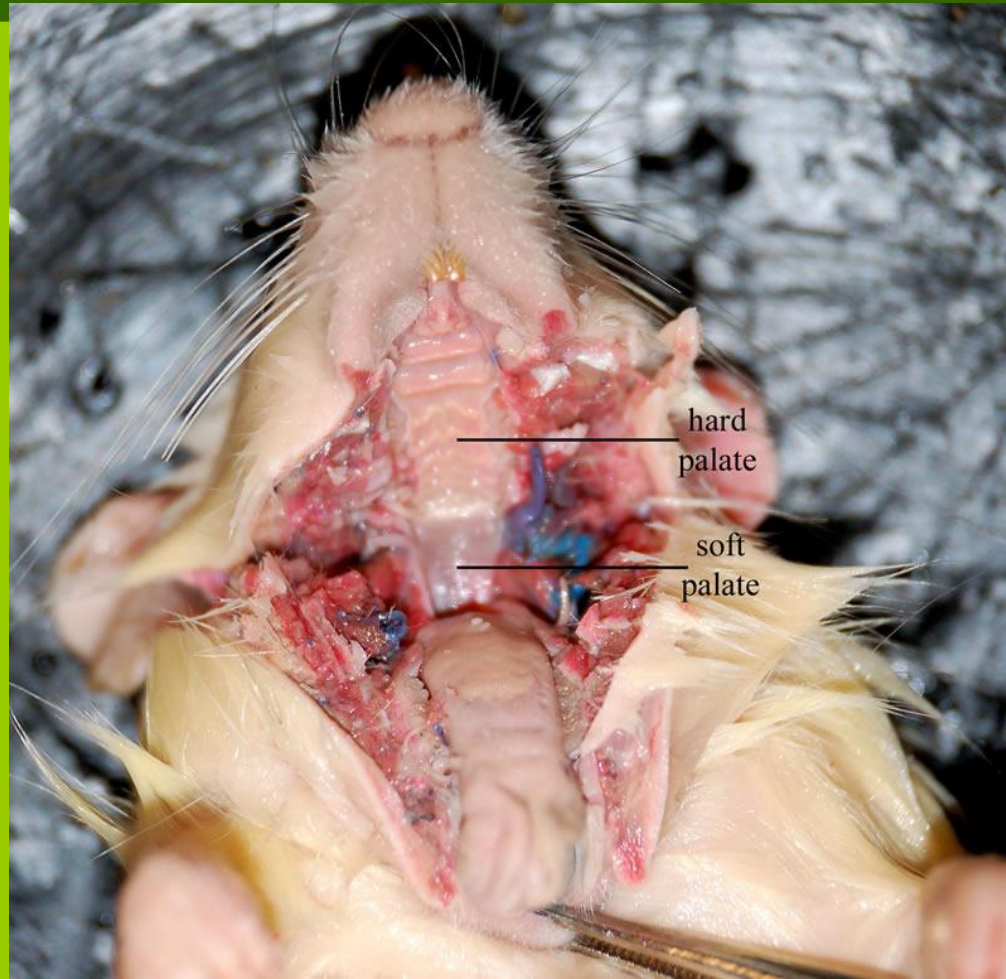
Copyright 2004 Ana Panduro & Yu Jin Kim

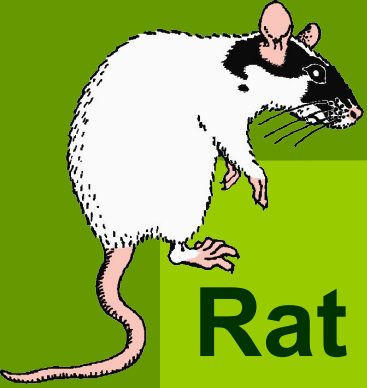
Source #5



Rat Dissection

ORAL CAVITY

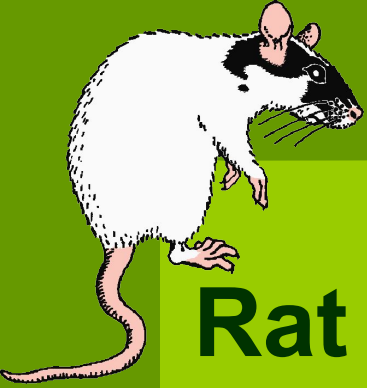




Rat Dissection

ORAL CAVITY



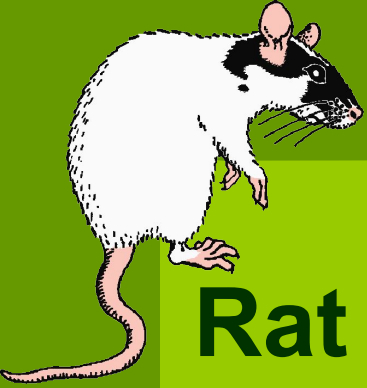


Rat Dissection

ABDOMINAL CAVITY



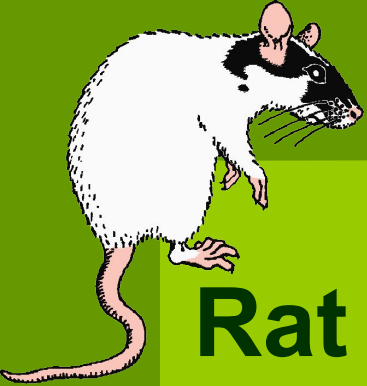
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Rat Dissection

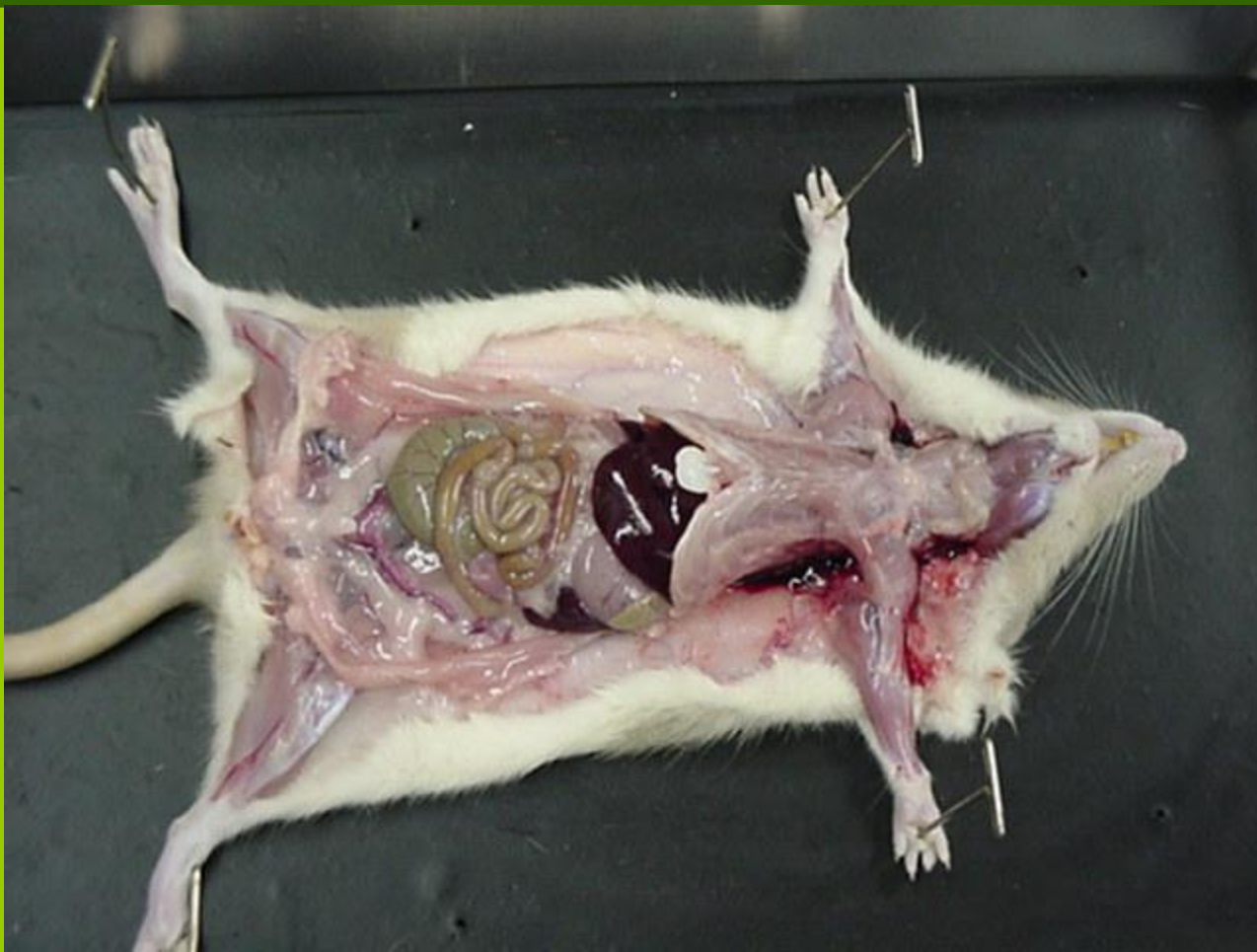
ABDOMINAL CAVITY



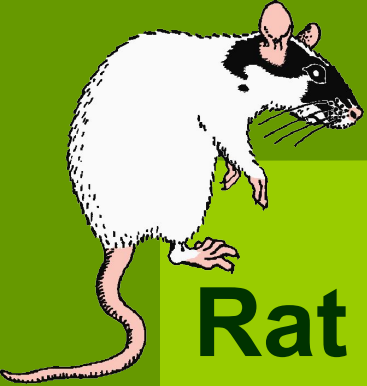


Rat Dissection

ABDOMINAL CAVITY

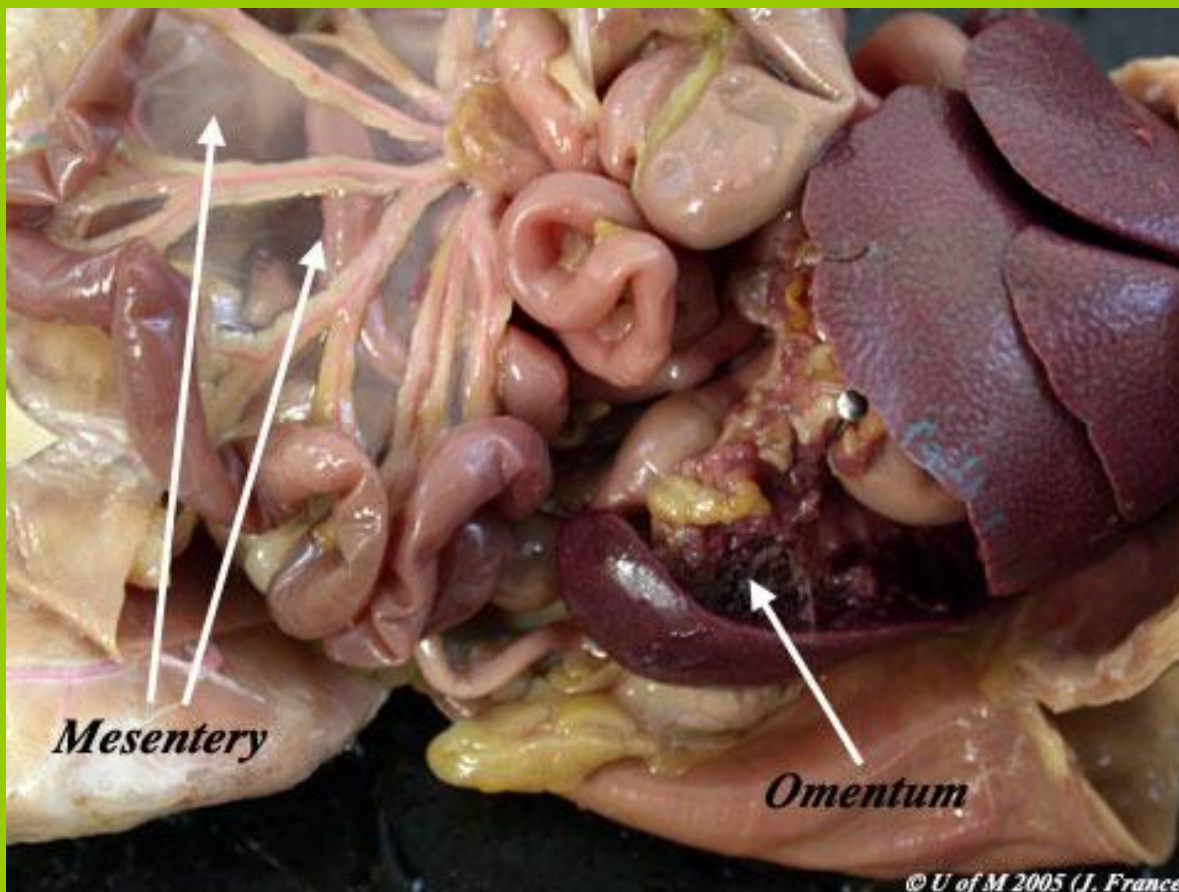


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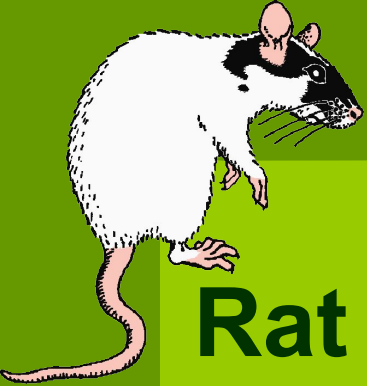


Rat Dissection

DIGESTIVE ORGANS

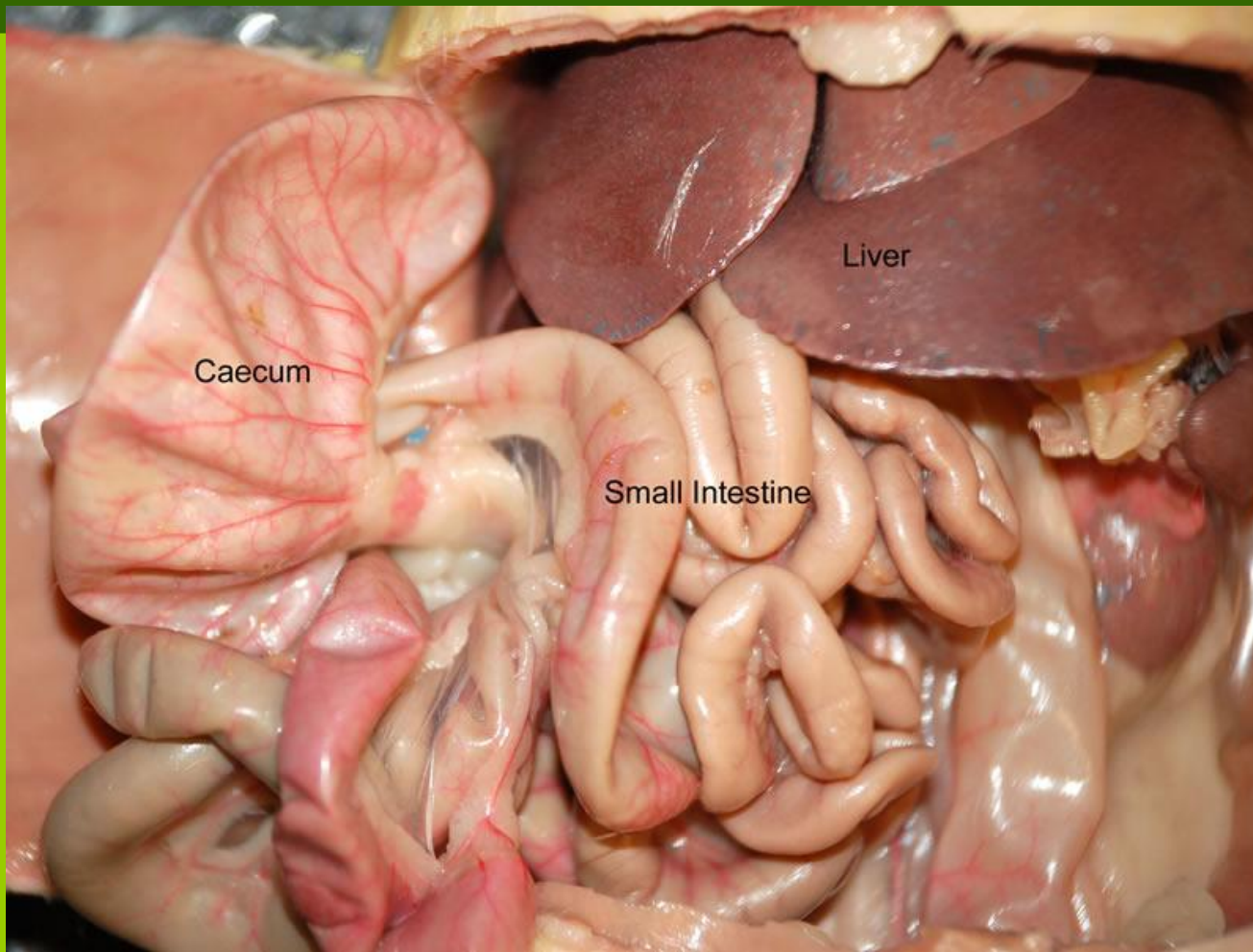


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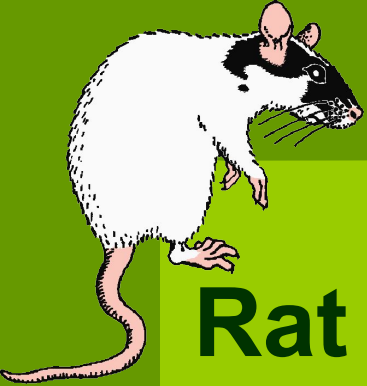


Rat Dissection

DIGESTIVE ORGANS

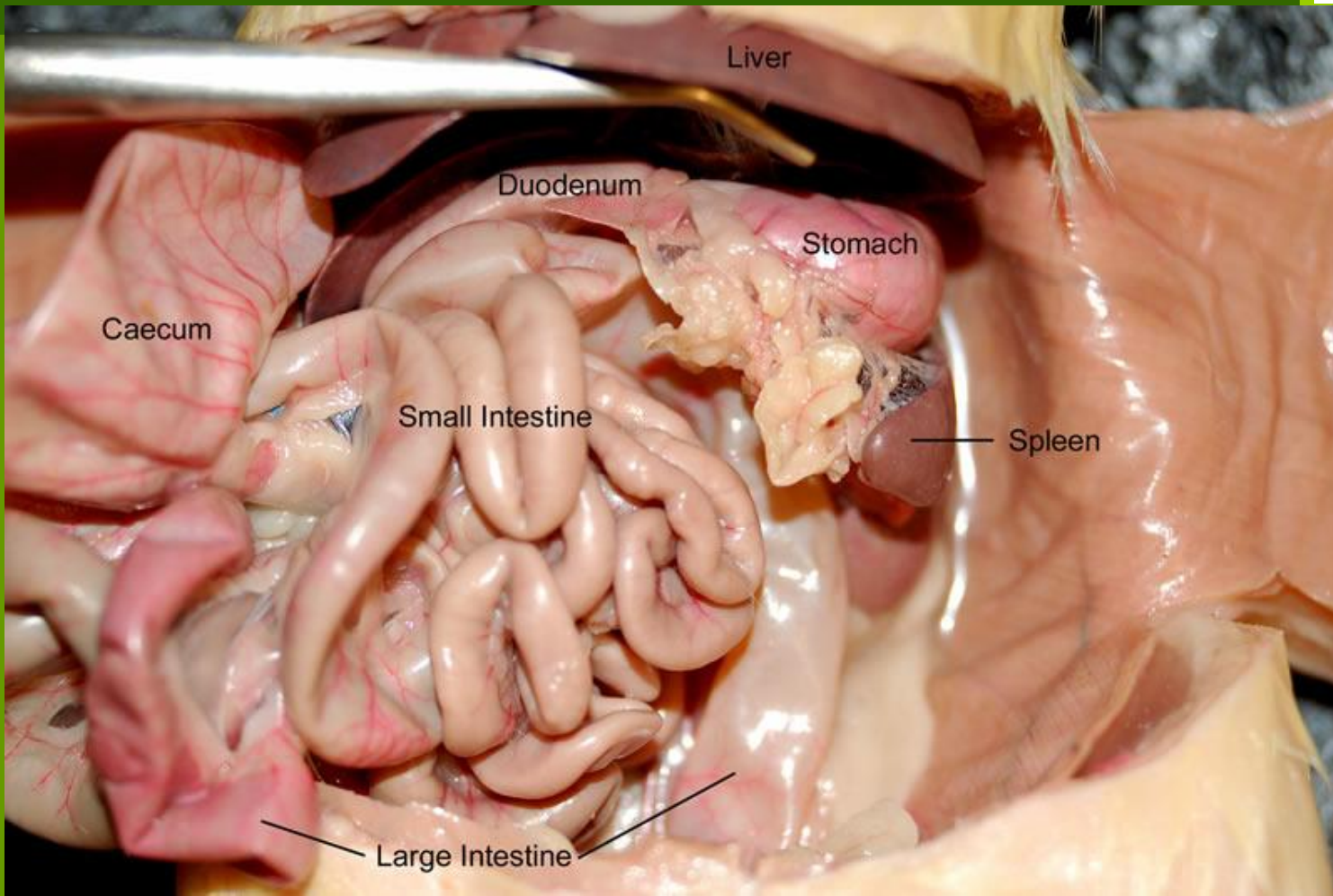


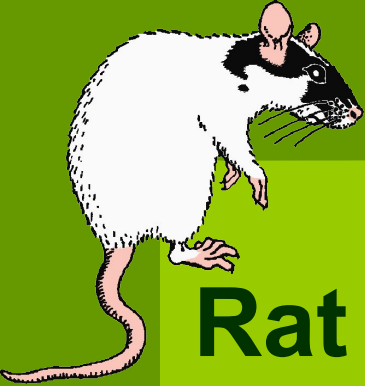
Source #6



Rat Dissection

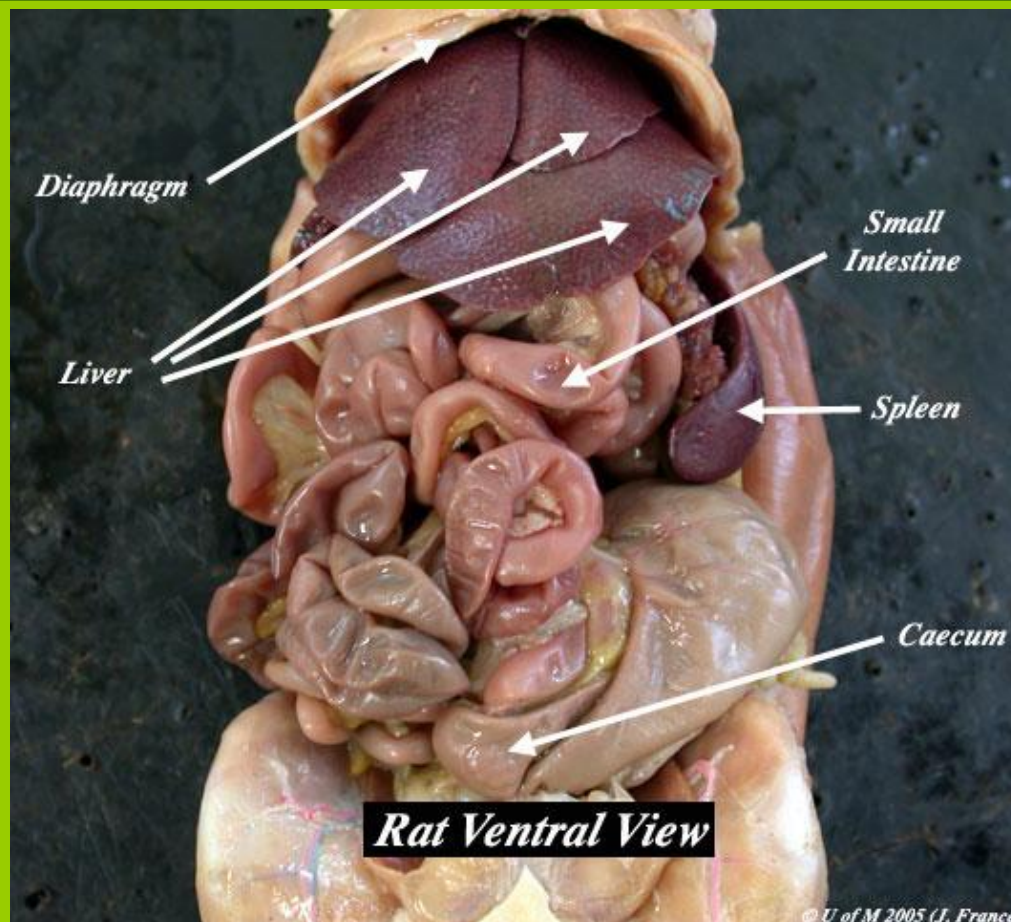
DIGESTIVE ORGANS

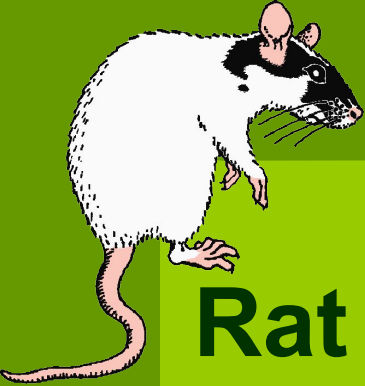




Rat Dissection

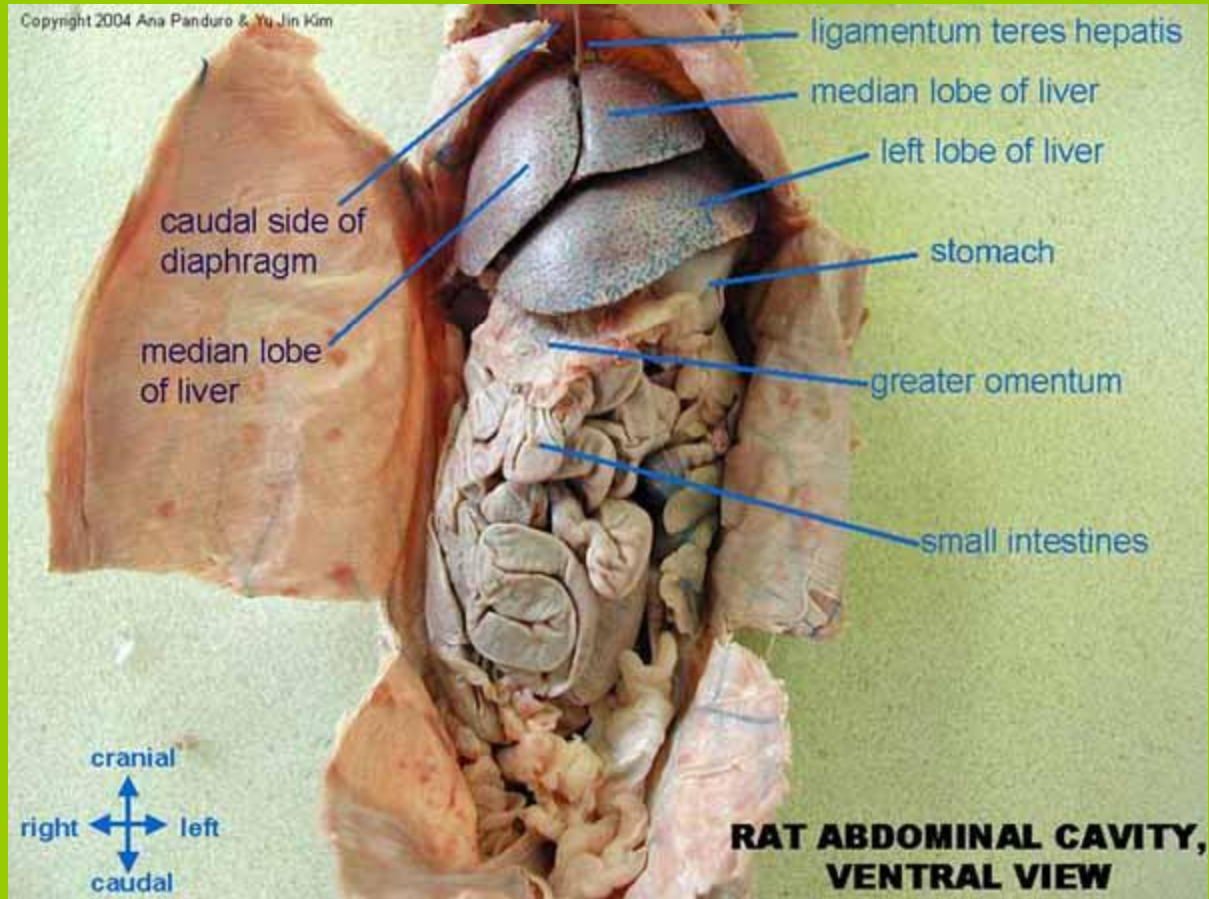
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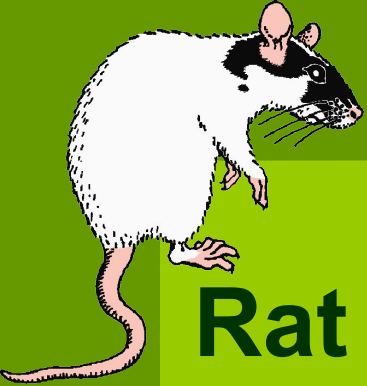




Rat Dissection

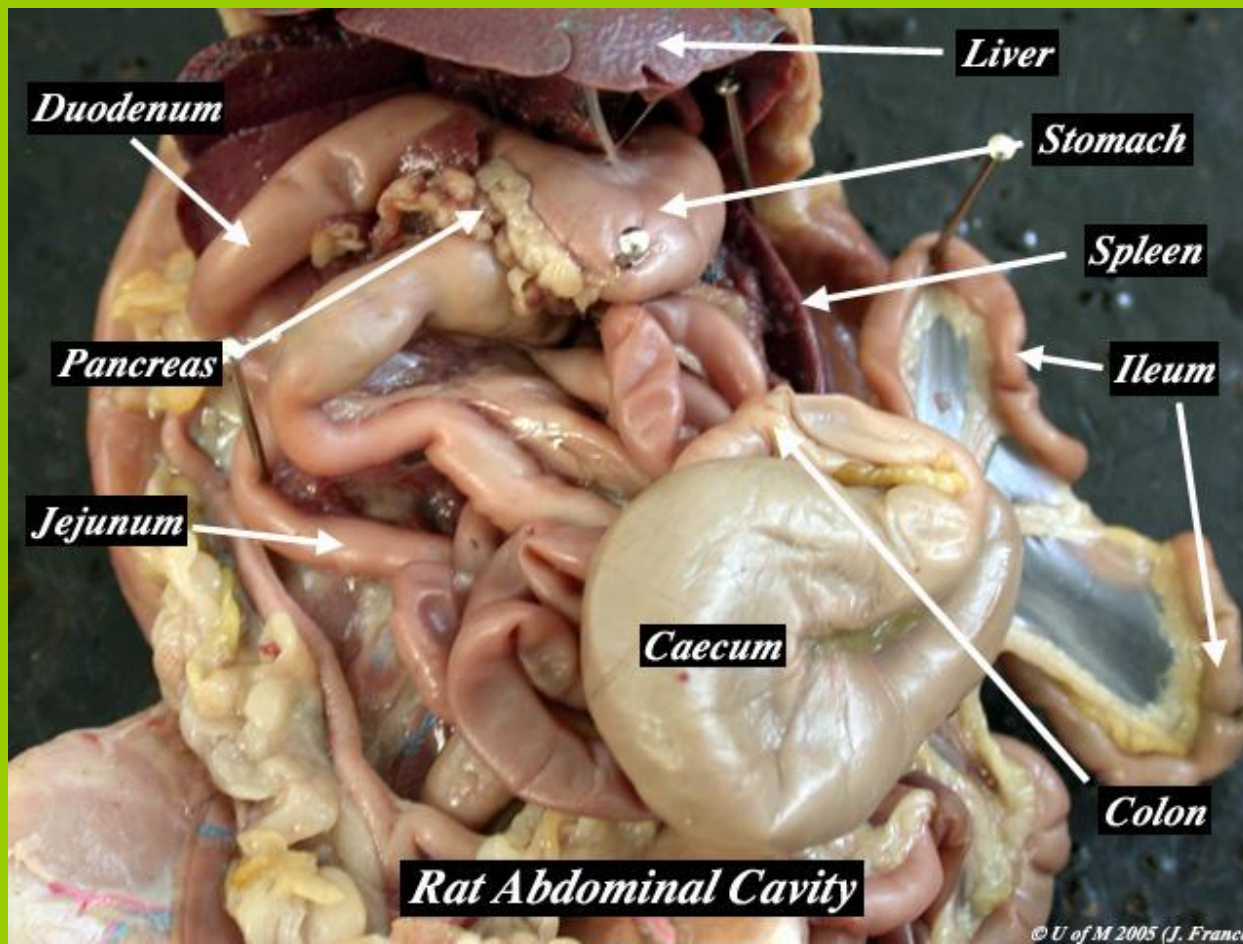
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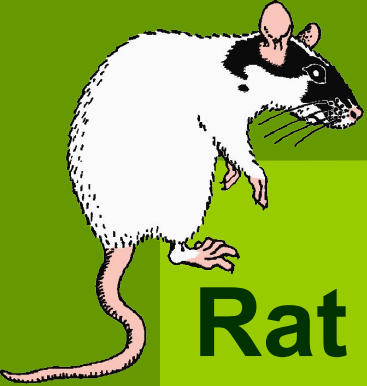


Rat Dissection

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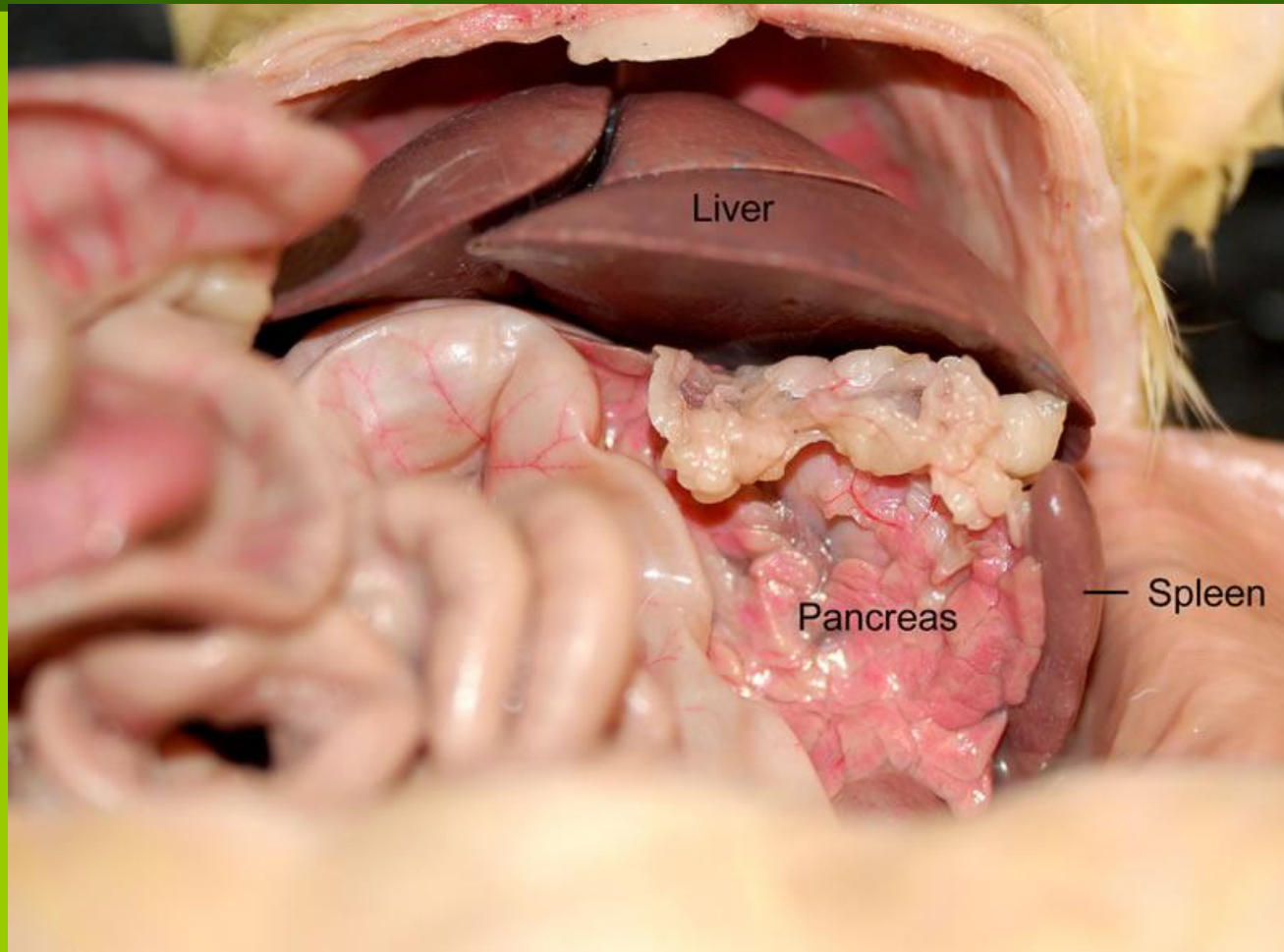


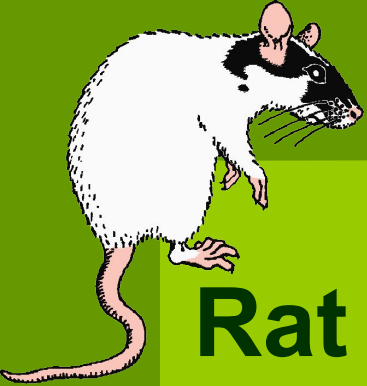
Source #1



Rat Dissection

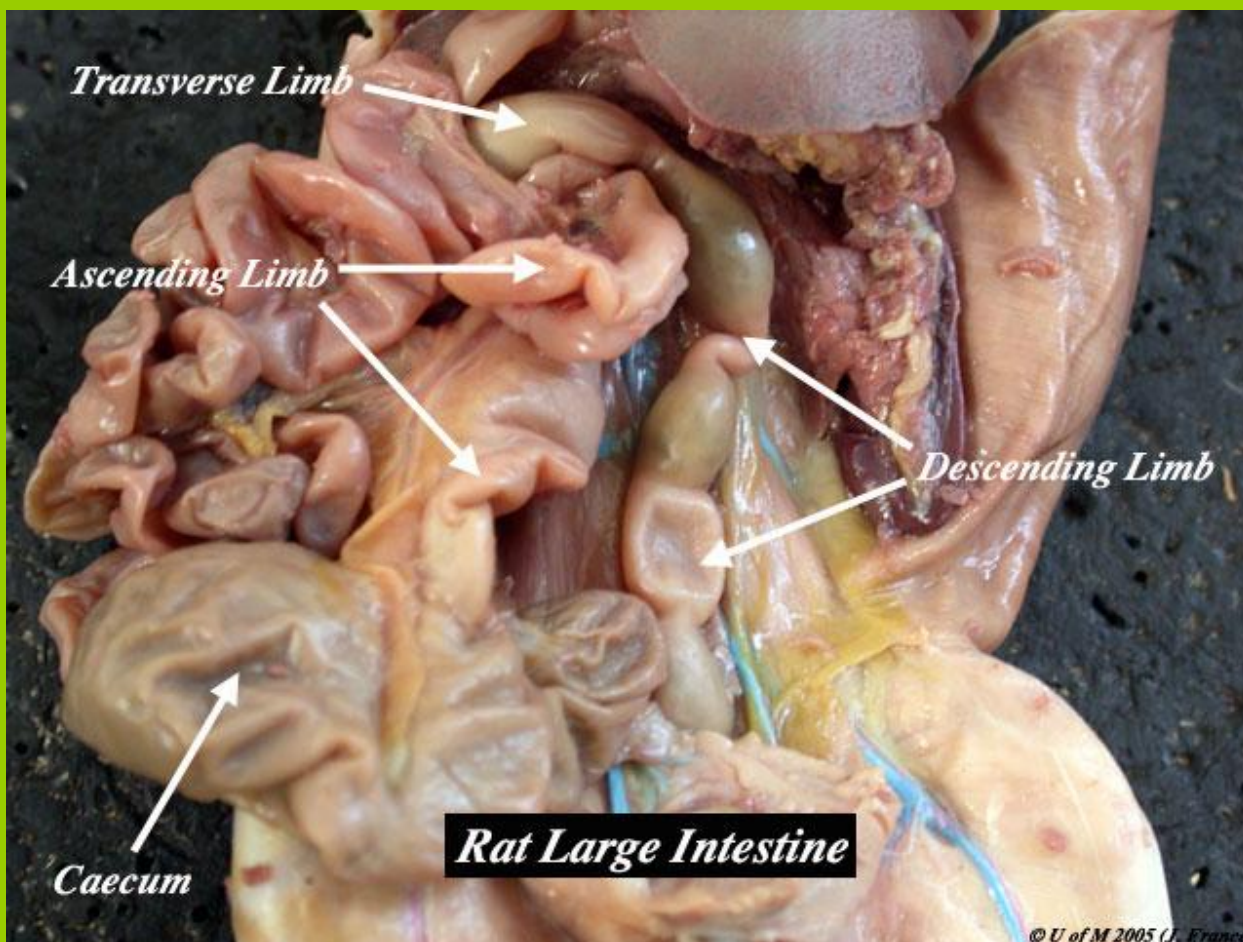
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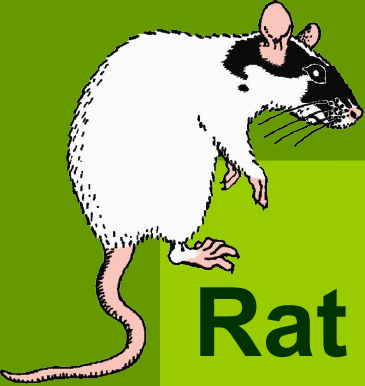


Rat Dissection

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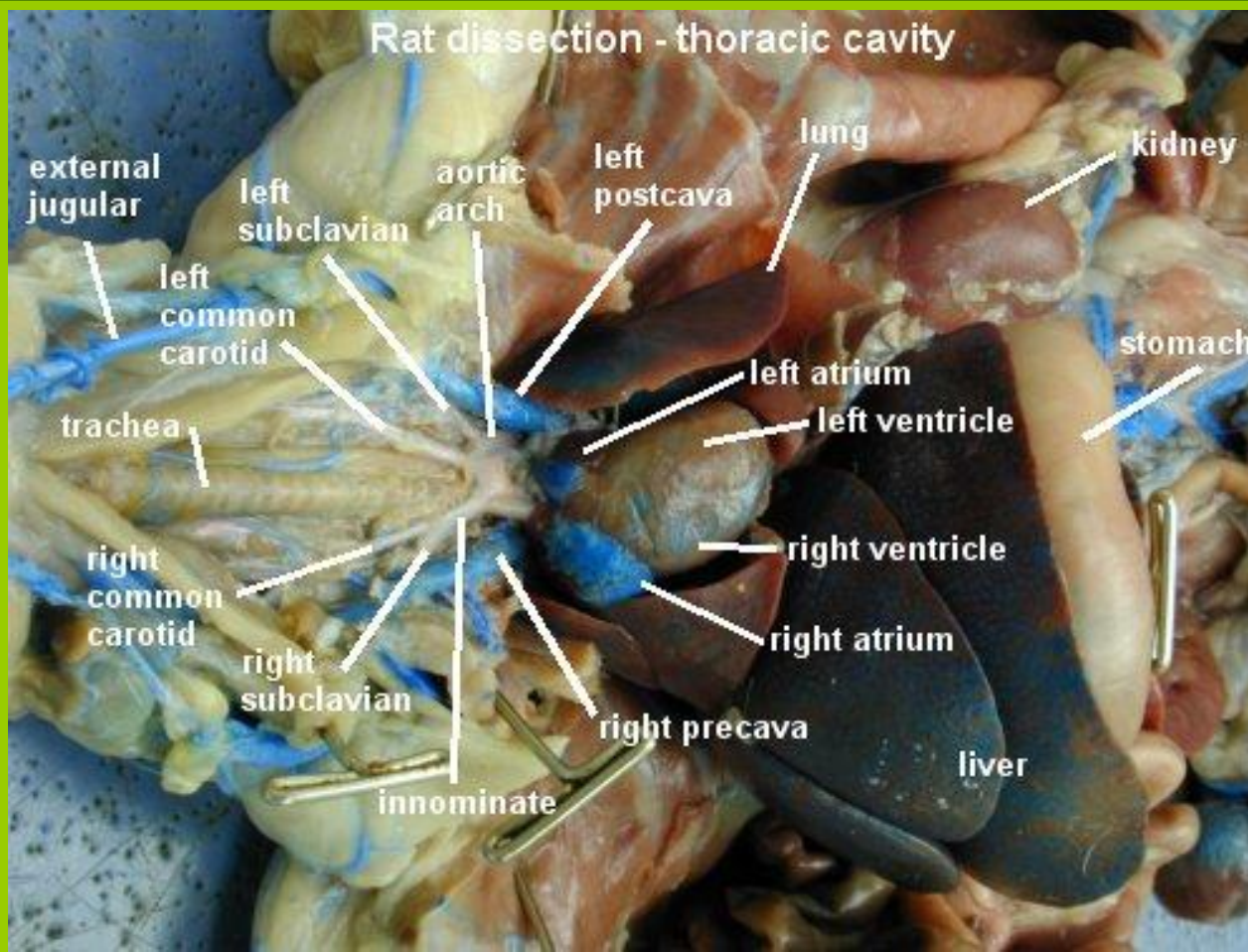


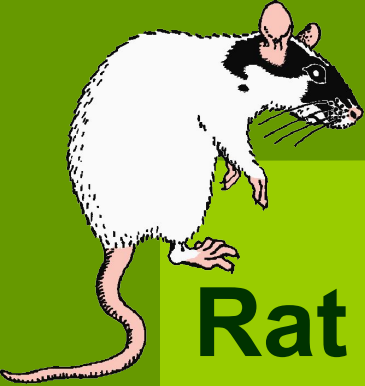
Source #1



Rat Dissection

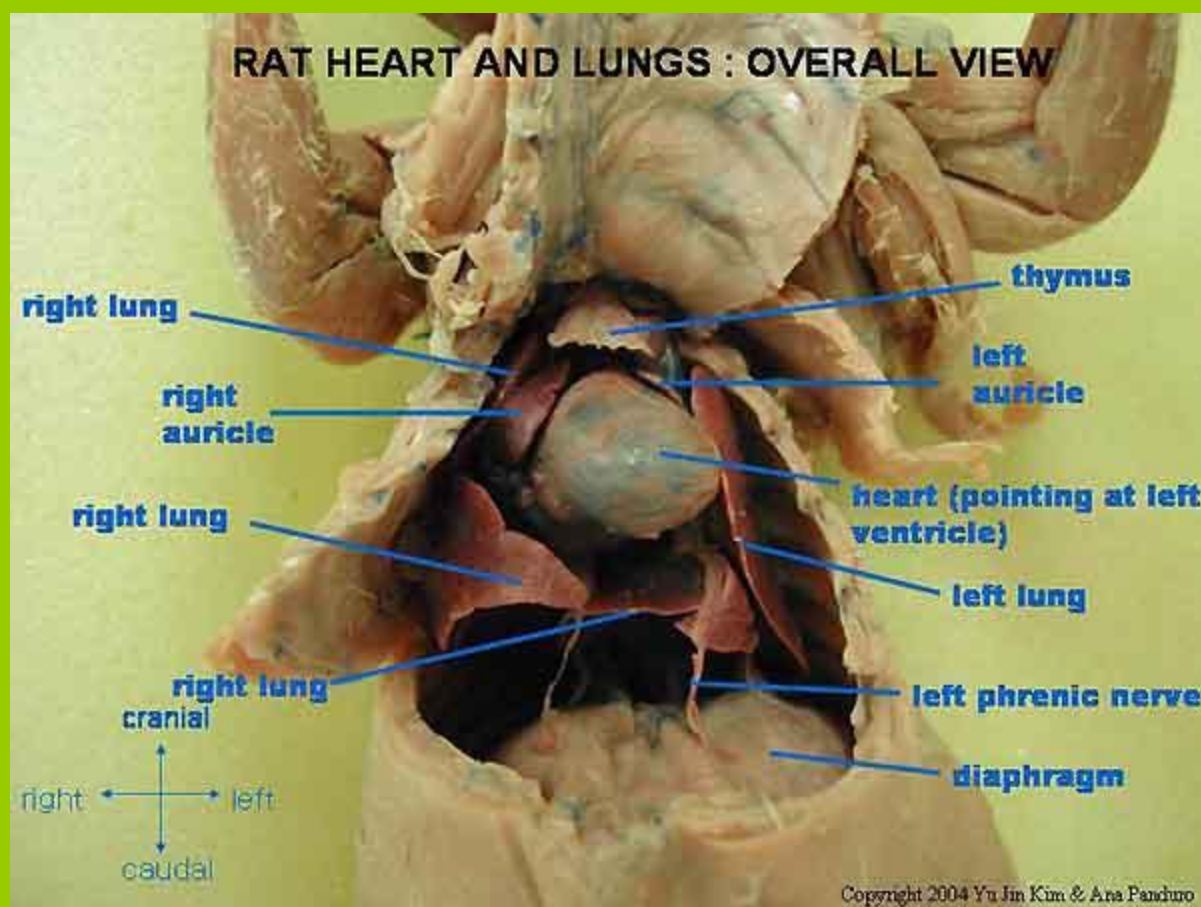
THORACIC CAVITY

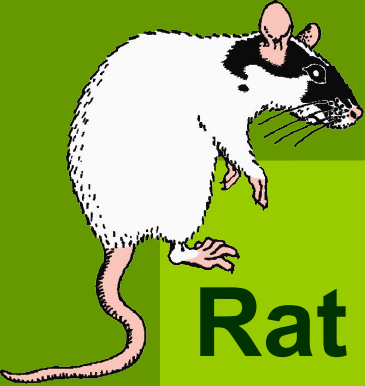




Rat Dissection

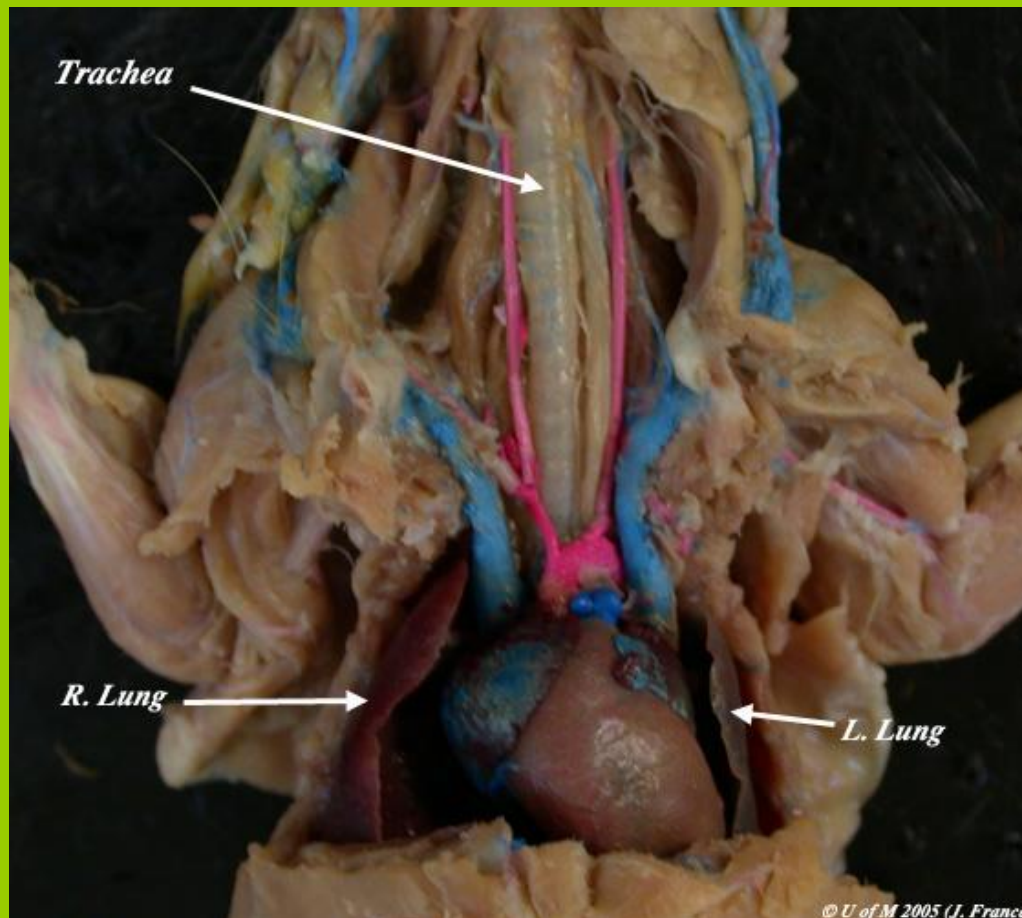
HEART + LUNGS

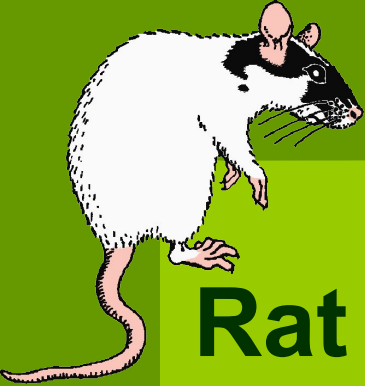




Rat Dissection

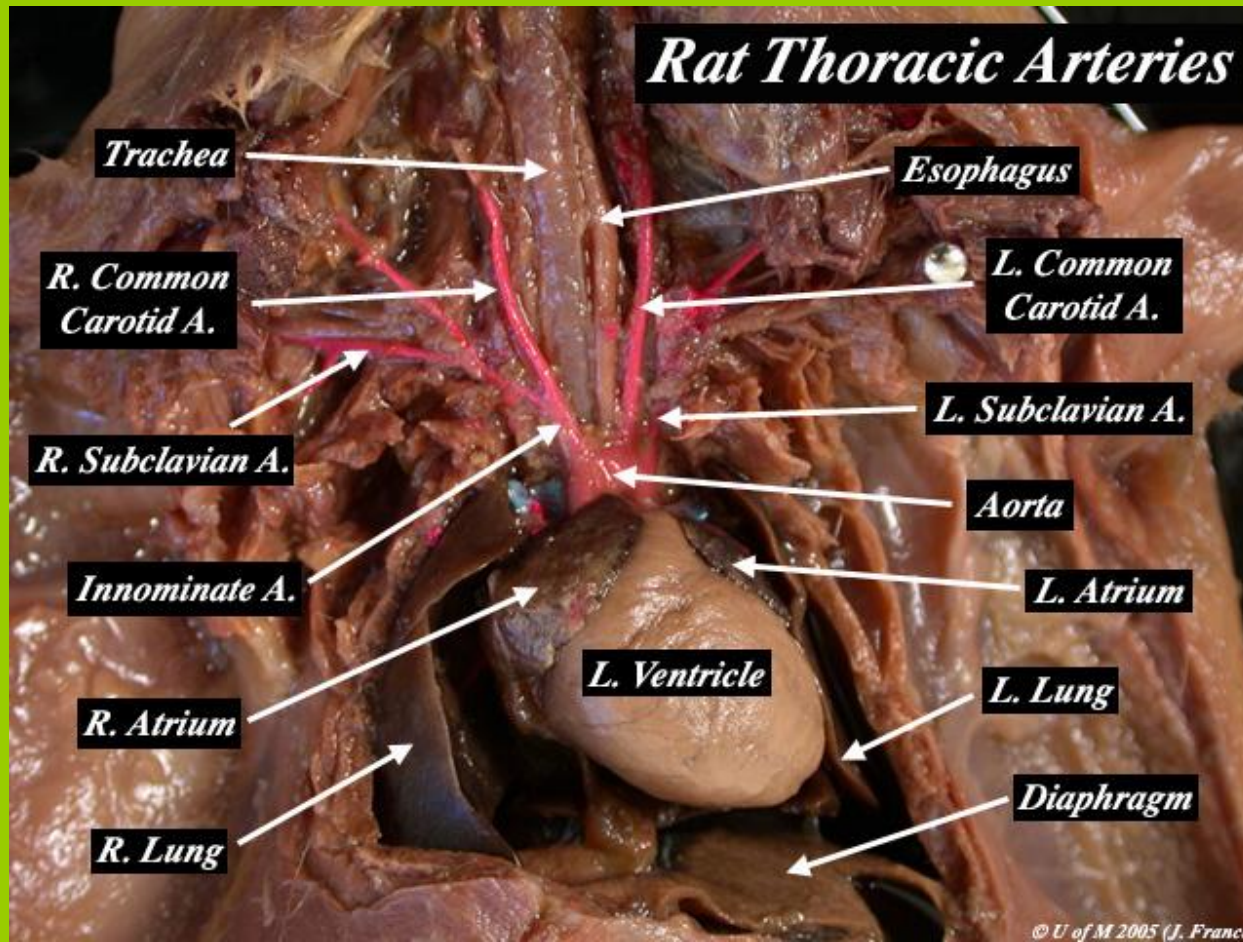
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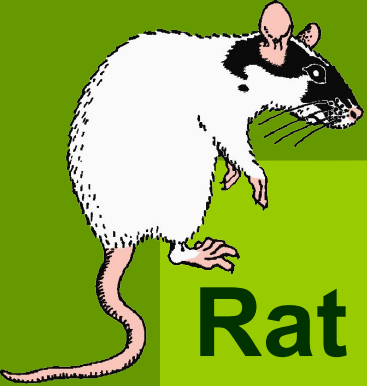


Rat Dissection

CIRCULATORY ORGANS

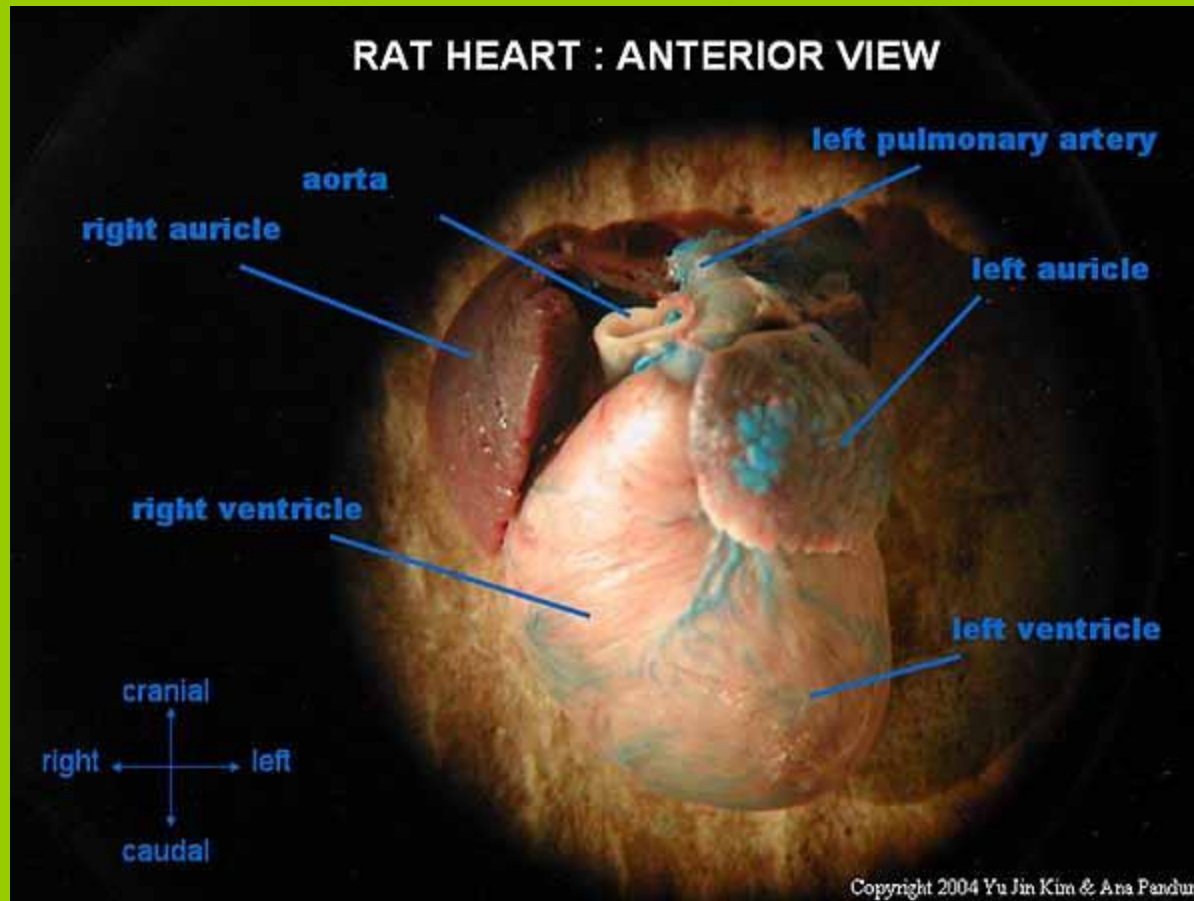


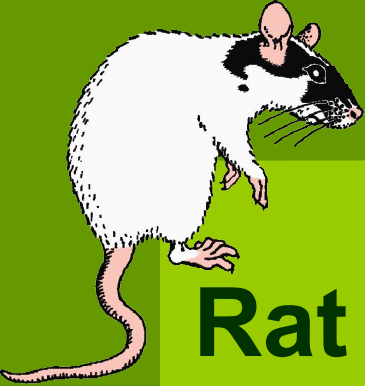
Source #1



Rat Dissection

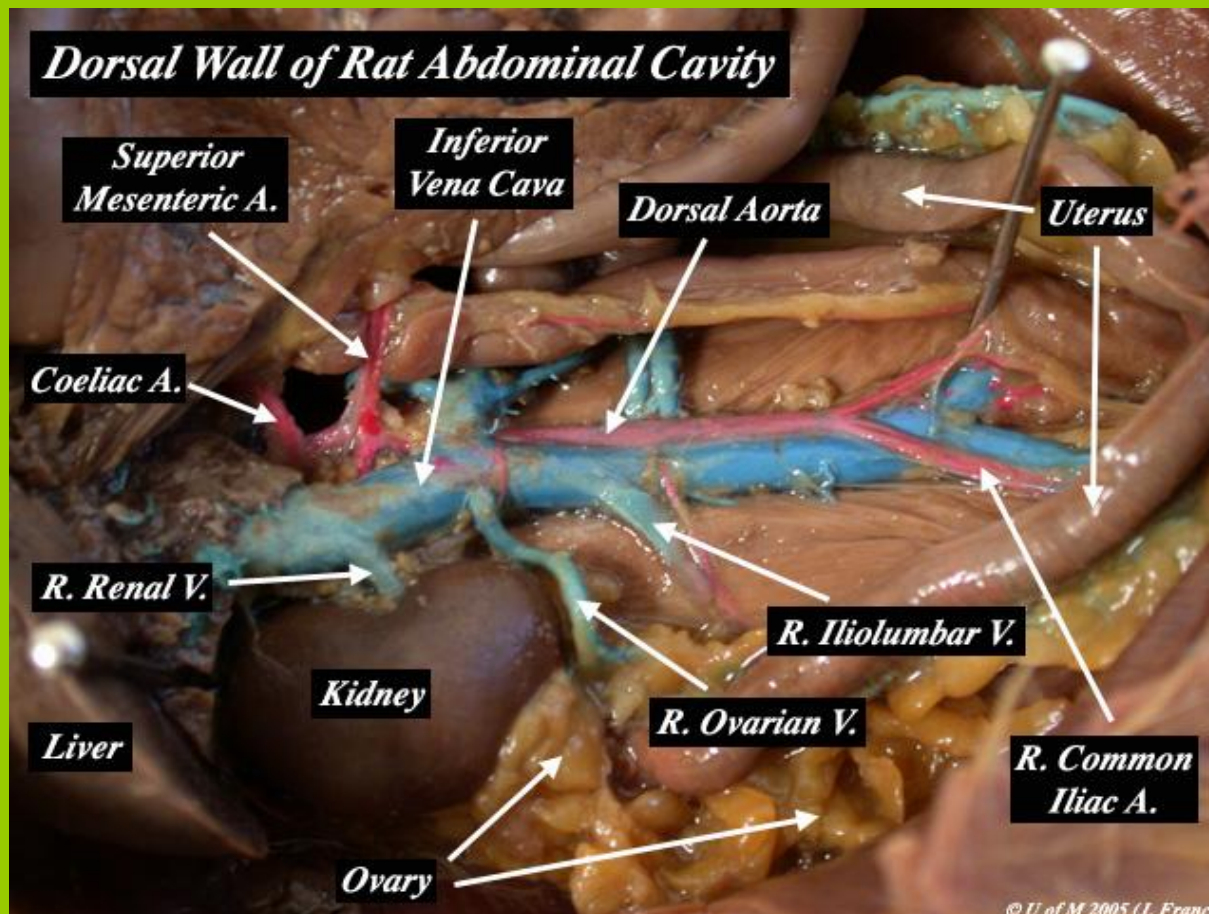
HEART



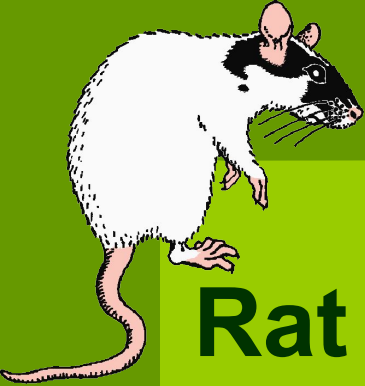


Rat Dissection

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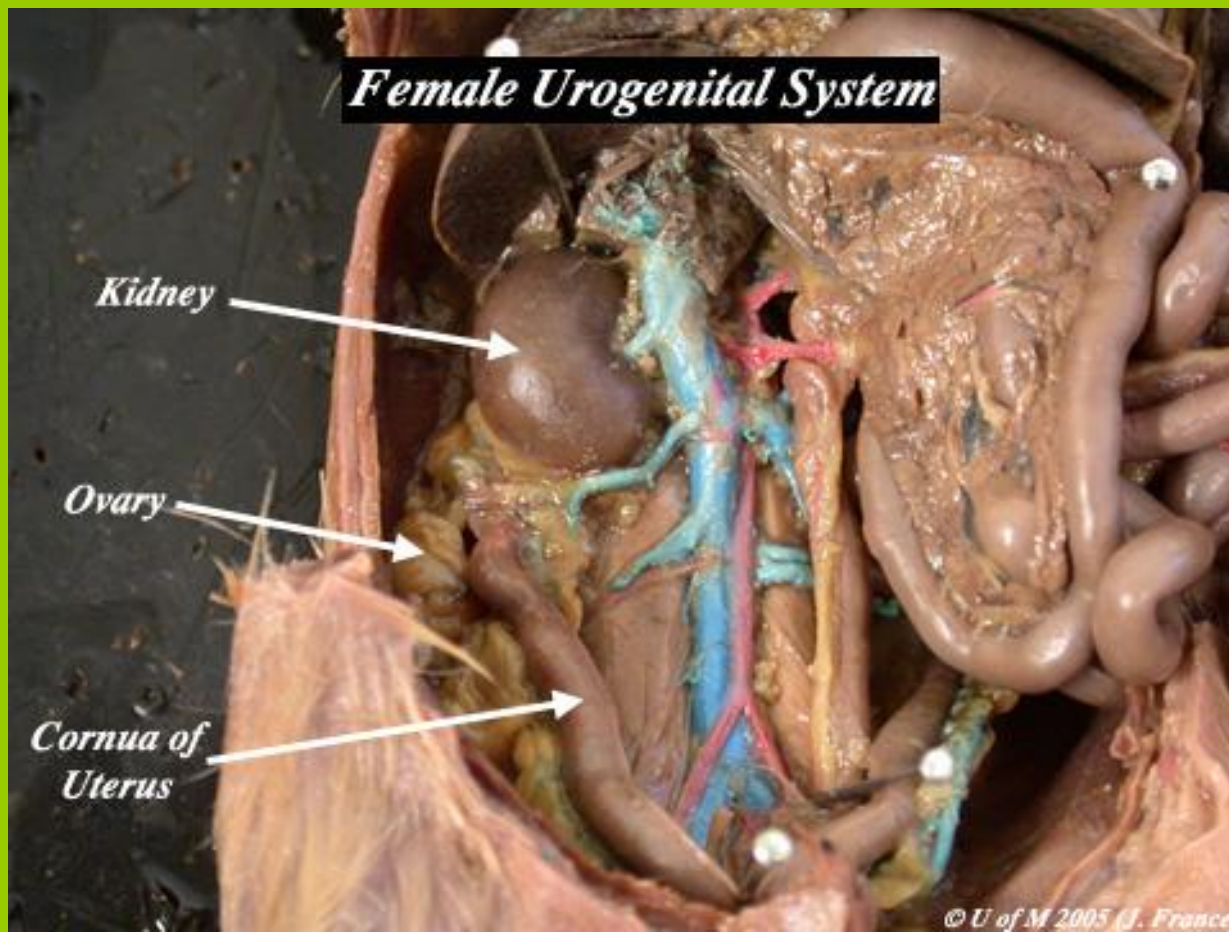


Source #1

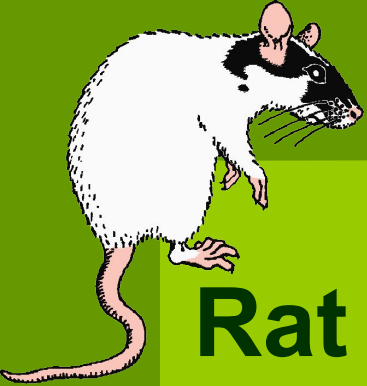


Rat Dissection

UROGENITAL ORGANS

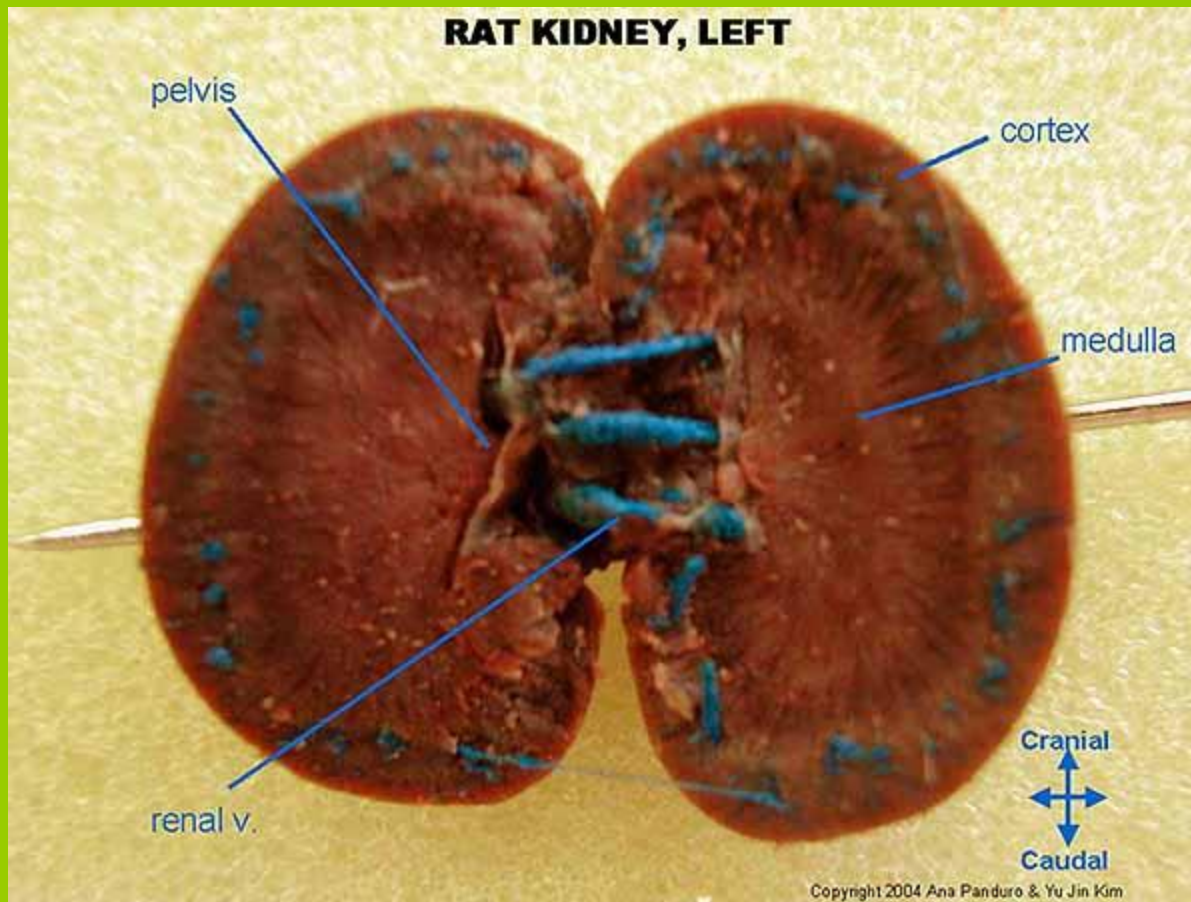


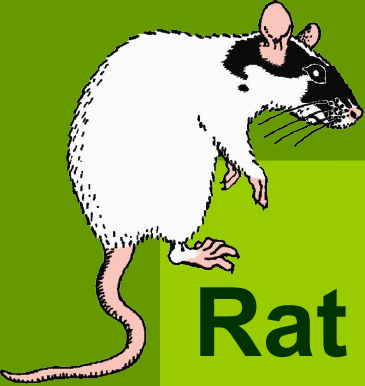
Source #1



Rat Dissection

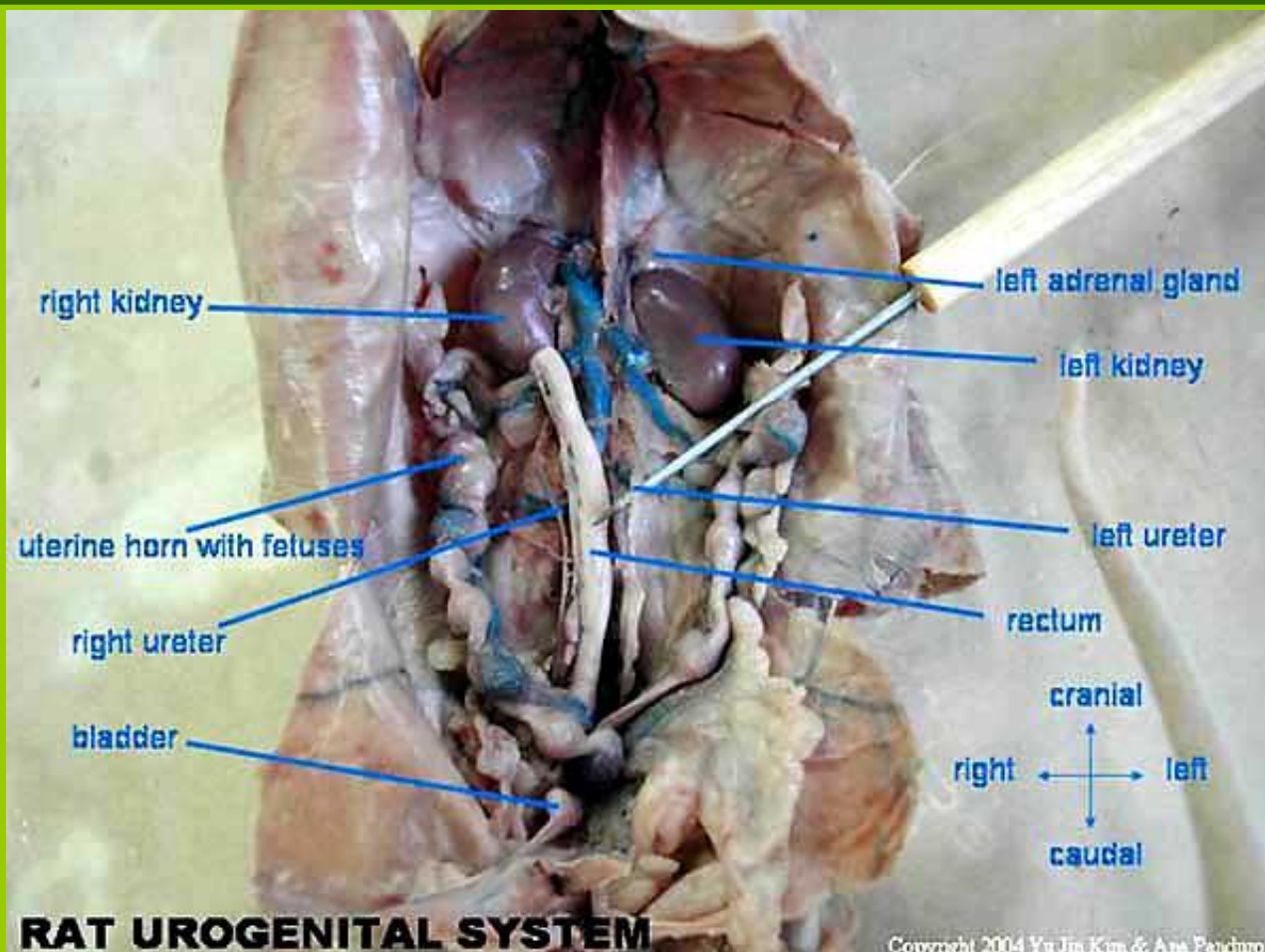
EXCRETORY ORGANS

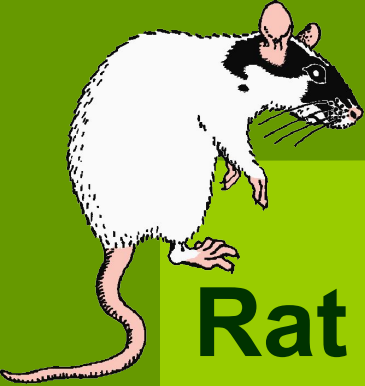




Rat Dissection

UROGENITAL ORGANS





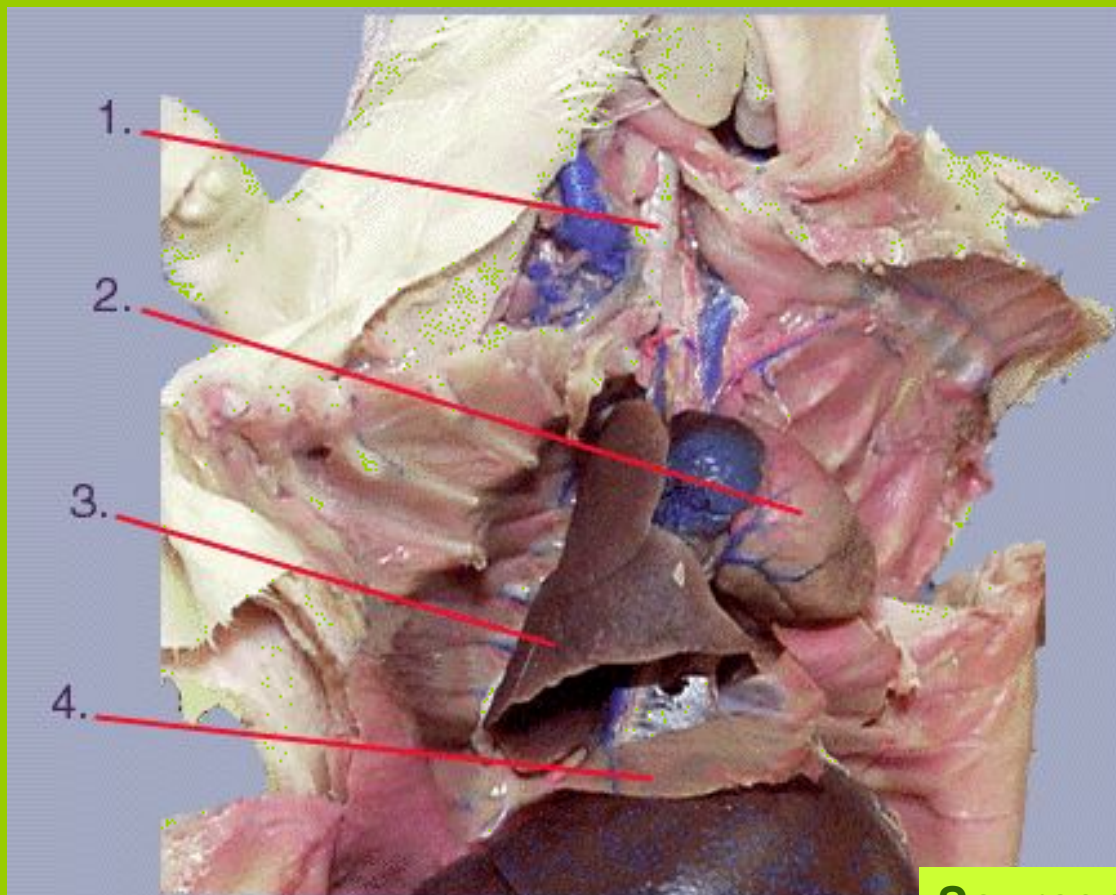
Review and Quiz Yourself



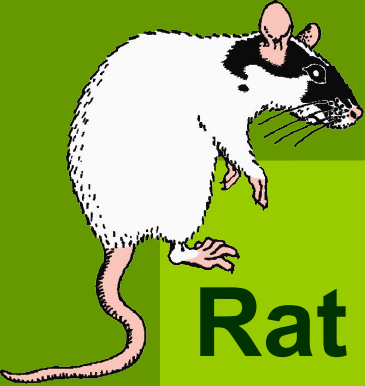
Rat Dissection

THORACIC CAVITY

1. Trachea
2. Heart
3. Lung
4. Diaphragm



Source #2



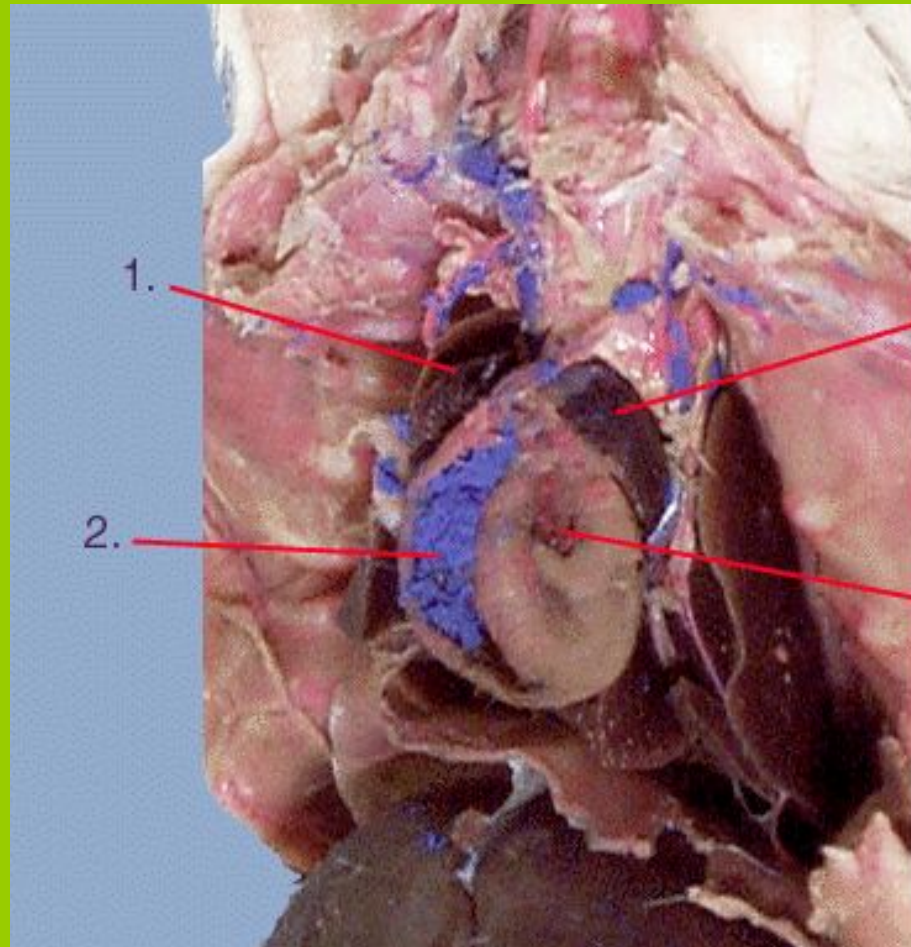
Review and Quiz Yourself



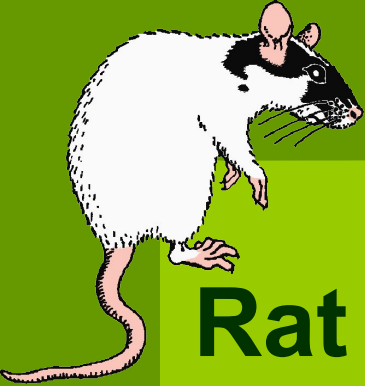
Rat Dissection

HEART

1. Right Atrium
2. Right Ventricle
3. Left Atrium
4. Left Ventricle



Source #2



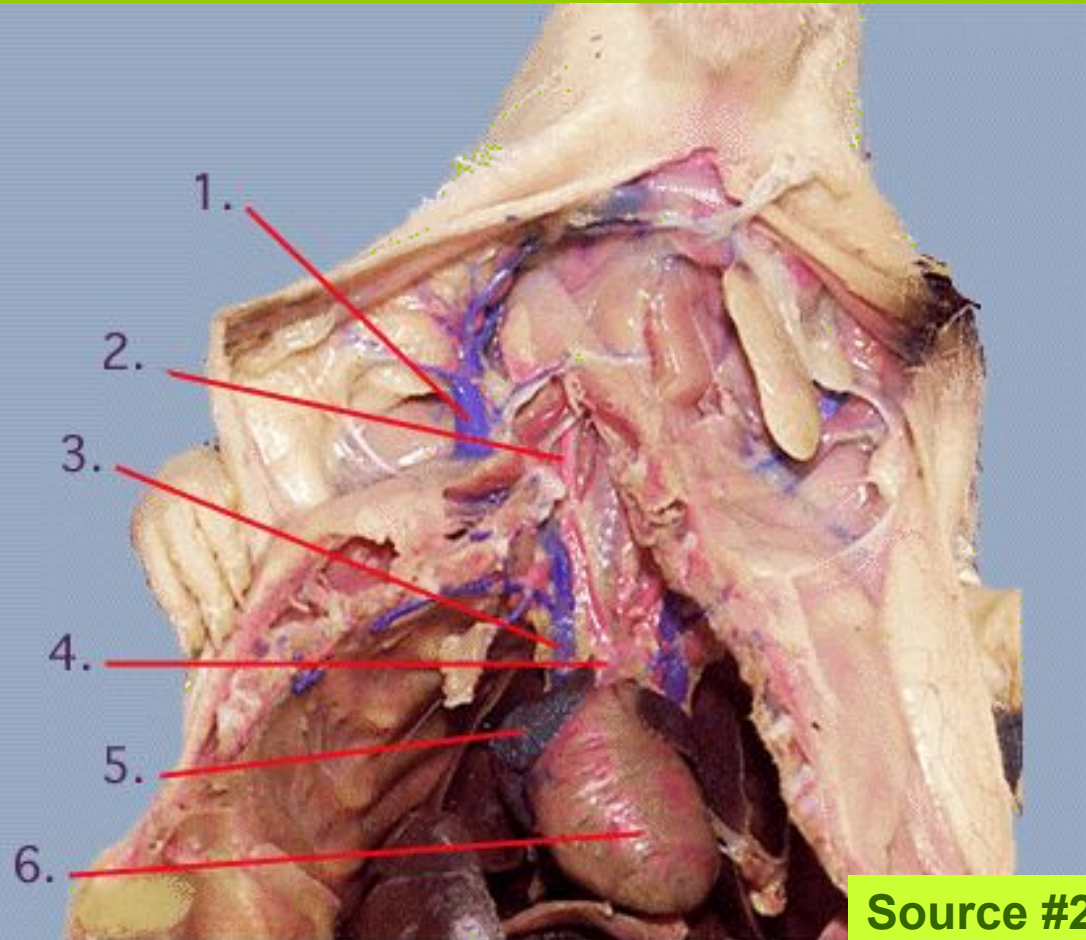
Review and Quiz Yourself



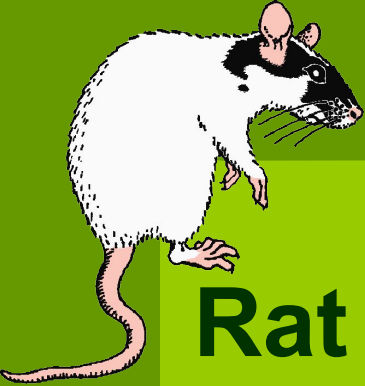
Rat Dissection

THORACIC CIRCULATION

1. Jugular Vein
2. Carotid Artery
3. Superior Vena Cava
4. Ascending Aorta
5. Atrium (right)
6. Ventricles



Source #2



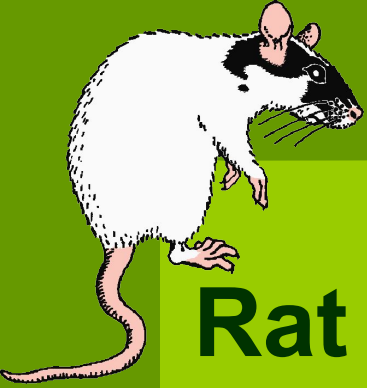
Rat Dissection

ABDOMINAL CAVITY



- You should be familiar with the order of the parts of the alimentary canal. Following the path that food would take, we would pass through:
 - Oral Cavity
 - Pharynx
 - Esophagus
 - Stomach
 - Pyloric Sphincter
 - Small Intestine
 - Duodenum
 - Jejunum
 - Ileum
 - Large Intestine
 - Cecum
 - Colon
 - Ascending Limb
 - Transverse Limb
 - Descending Limb
 - Rectum
 - Anus





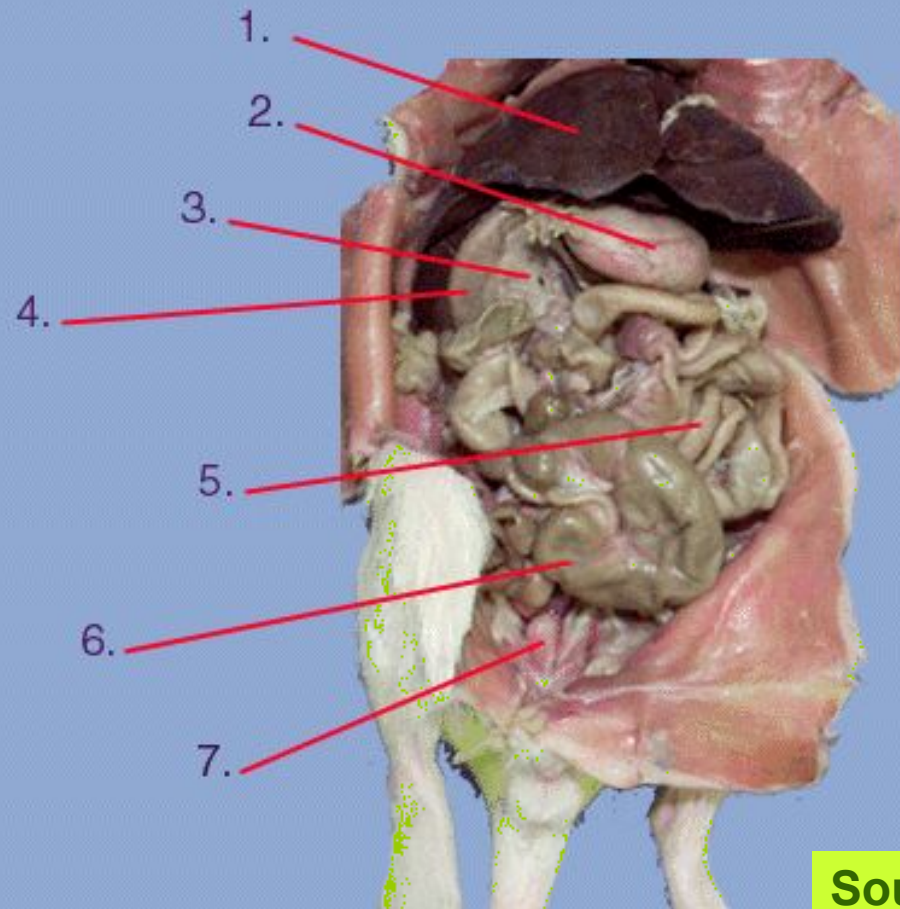
Review and Quiz Yourself



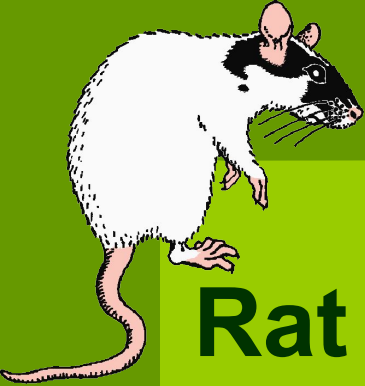
Rat Dissection

ABDOMINAL CAVITY

1. Liver
2. Stomach
3. Pancreas
4. Duodenum
5. Small Intestines
6. Cecum
7. Urinary Bladder



Source #2



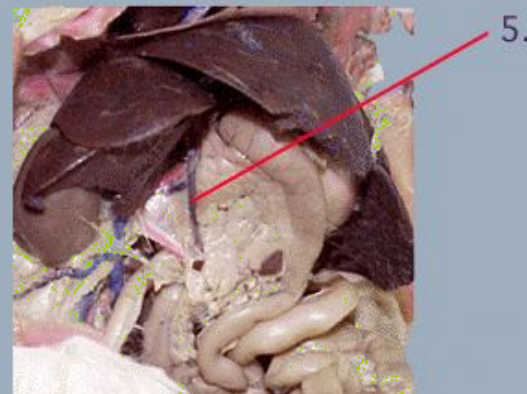
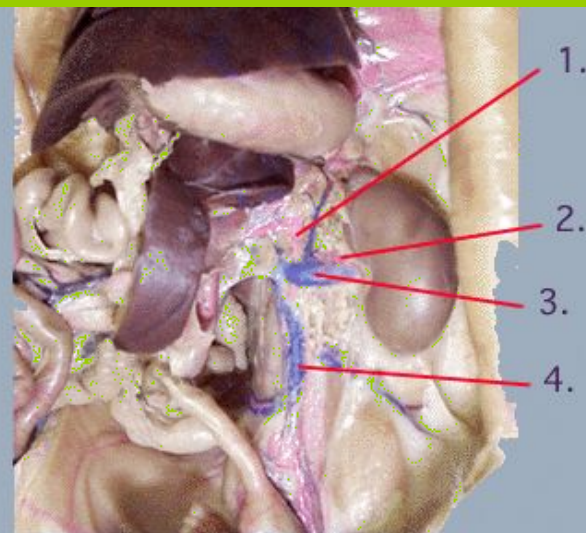
Review and Quiz Yourself

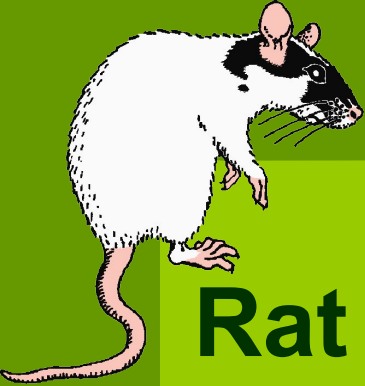


Rat Dissection

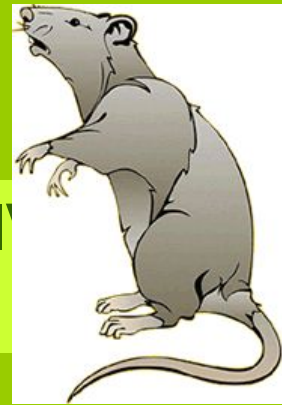
ABDOMINAL CIRCULATION

1. Abdominal Aorta
2. Renal Artery (left)
3. Renal Vein (left)
4. Inferior Vena Cava
5. Hepatic Portal Vein





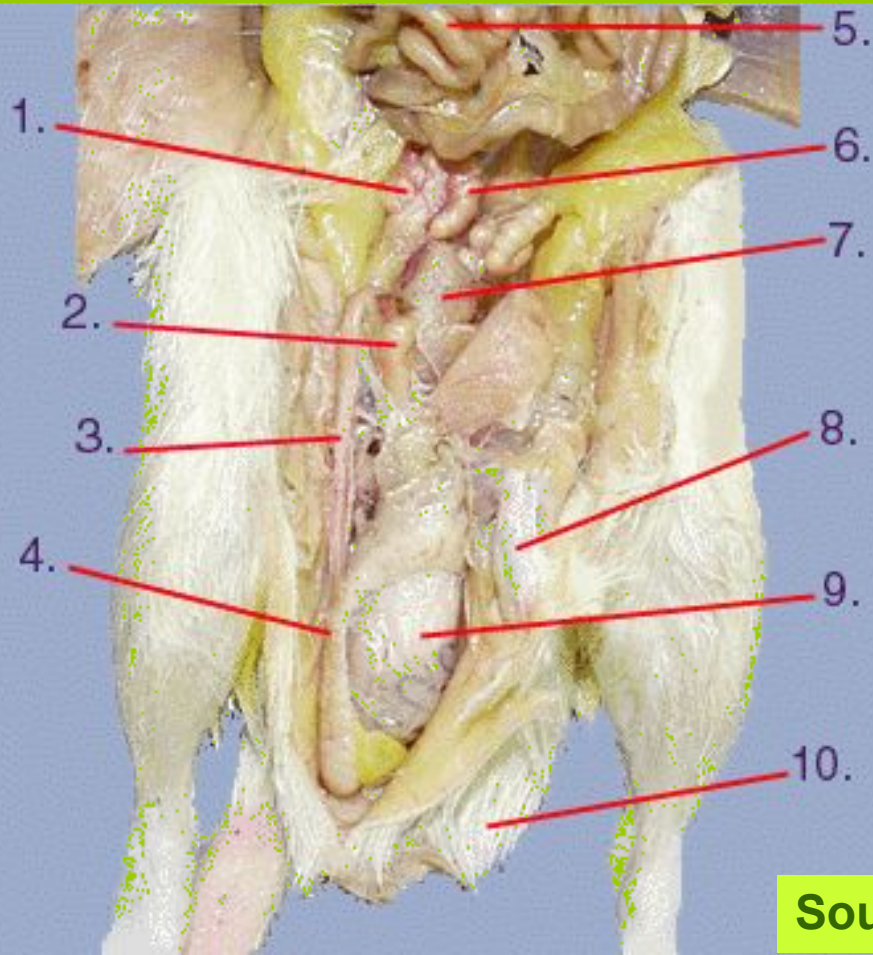
Review and Quiz Yourself



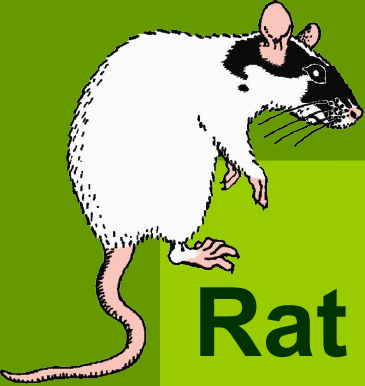
Rat Dissection

MALE REPRODUCTIVE ORGANS

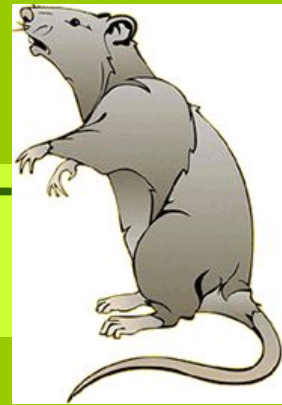
1. Coagulating Gland
2. Urinary Bladder
3. Vas Deferens
4. Epididymis
5. Small Intestines
6. Seminal Vesicle
7. Prostate Gland
8. Penis
9. Testis
10. Scrotum



Source #2



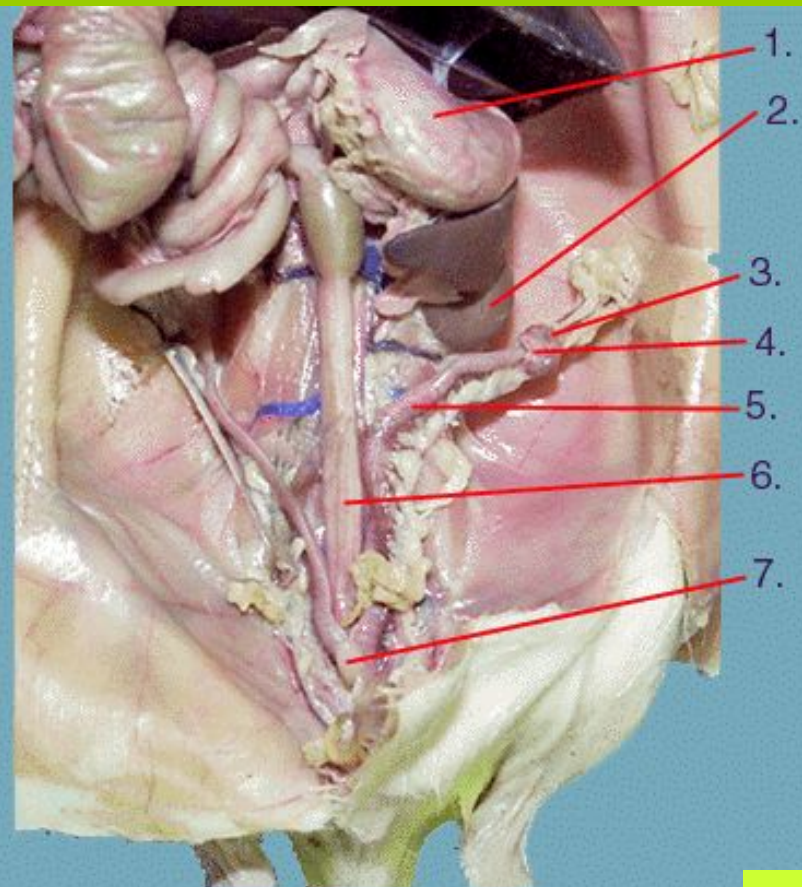
Review and Quiz Yourself



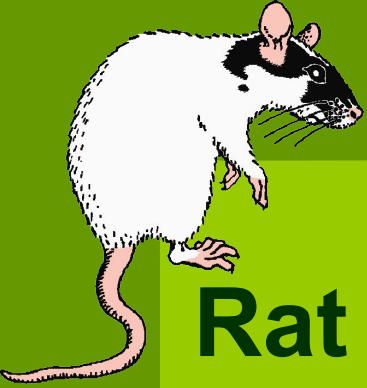
Rat Dissection

FEMALE REPRODUCTIVE ORGANS

1. Stomach
2. Kidney
3. Ovary
4. Oviduct
5. Uterine Horn
6. Large Intestine
7. Urinary Bladder



Source #2



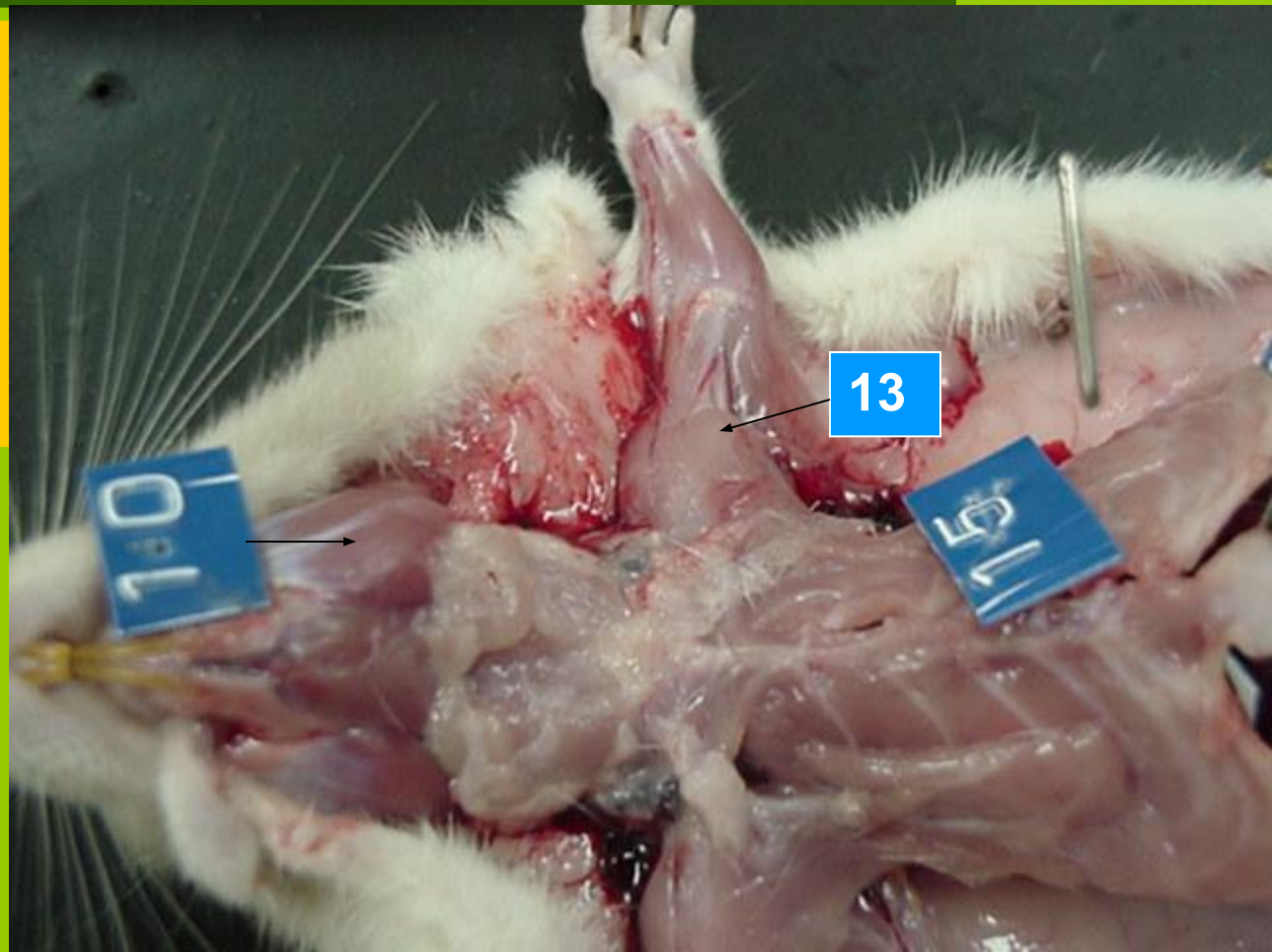
Review and Quiz Yourself

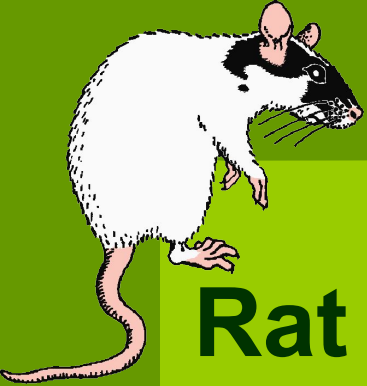


Rat Dissection

TAGGED ORGANS

- 10. Masseter
- 13. Biceps Brachii
- 15. Rib Cage





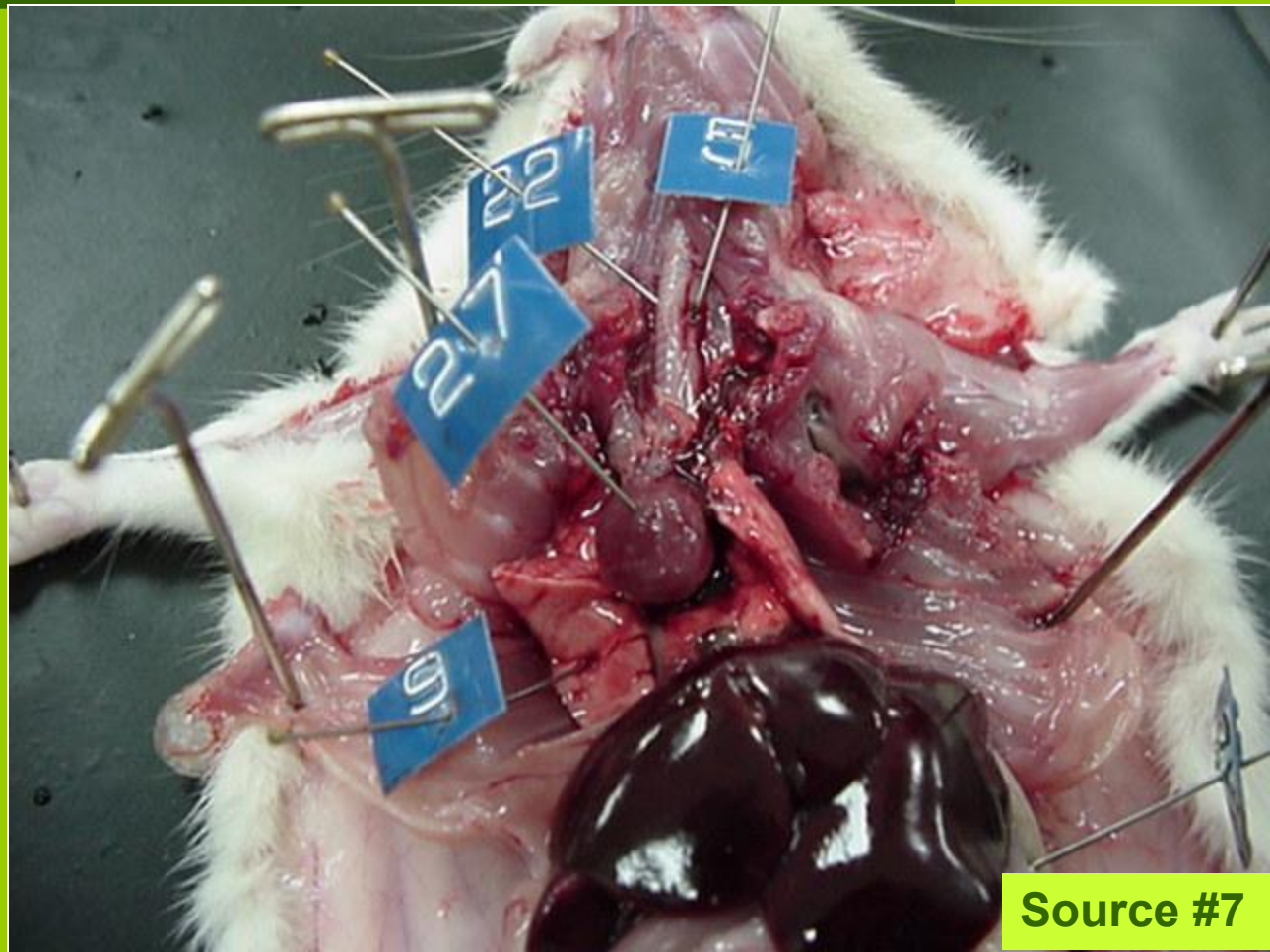
Review and Quiz Yourself



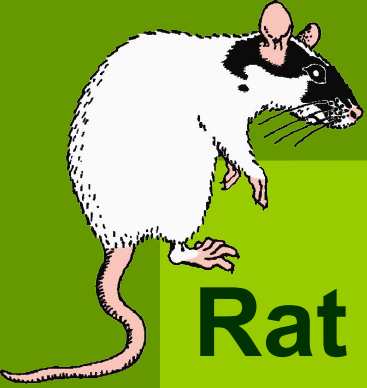
Rat Dissection

TAGGED ORGANS

- 5. Esophagus
- 9. Lung
- 22. Trachea
- 27. Heart



Source #7



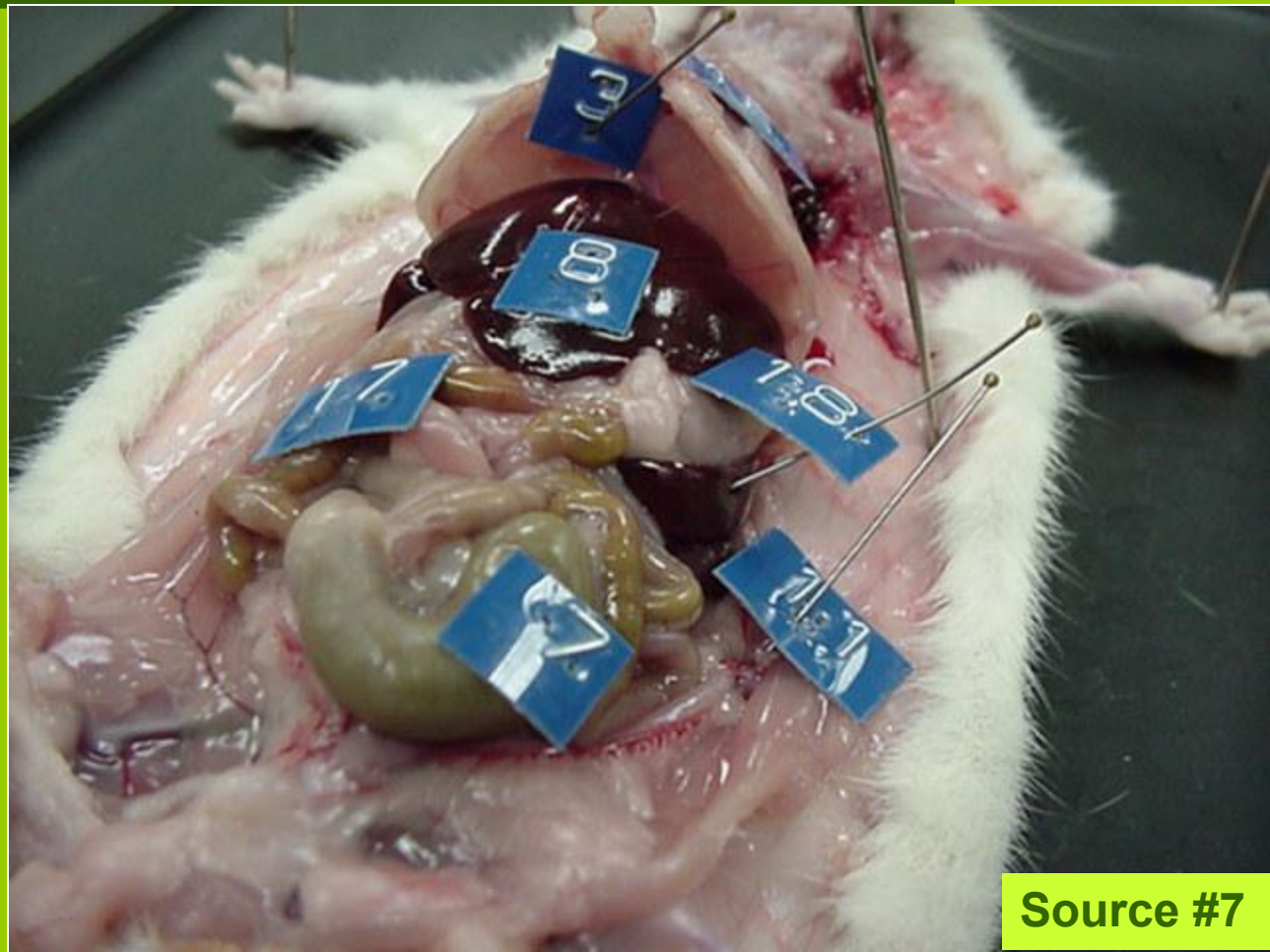
Review and Quiz Yourself



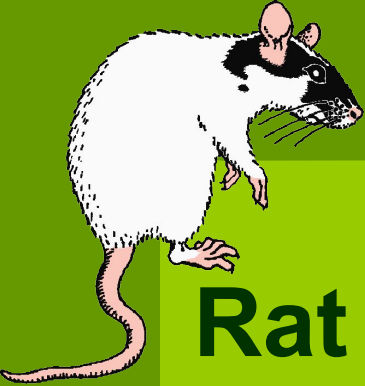
Rat Dissection

TAGGED ORGANS

- 3. Diaphragm
- 7. Cecum
- 8. Liver
- 11. Ovary
- 17. Small Intestine
- 18. Spleen



Source #7



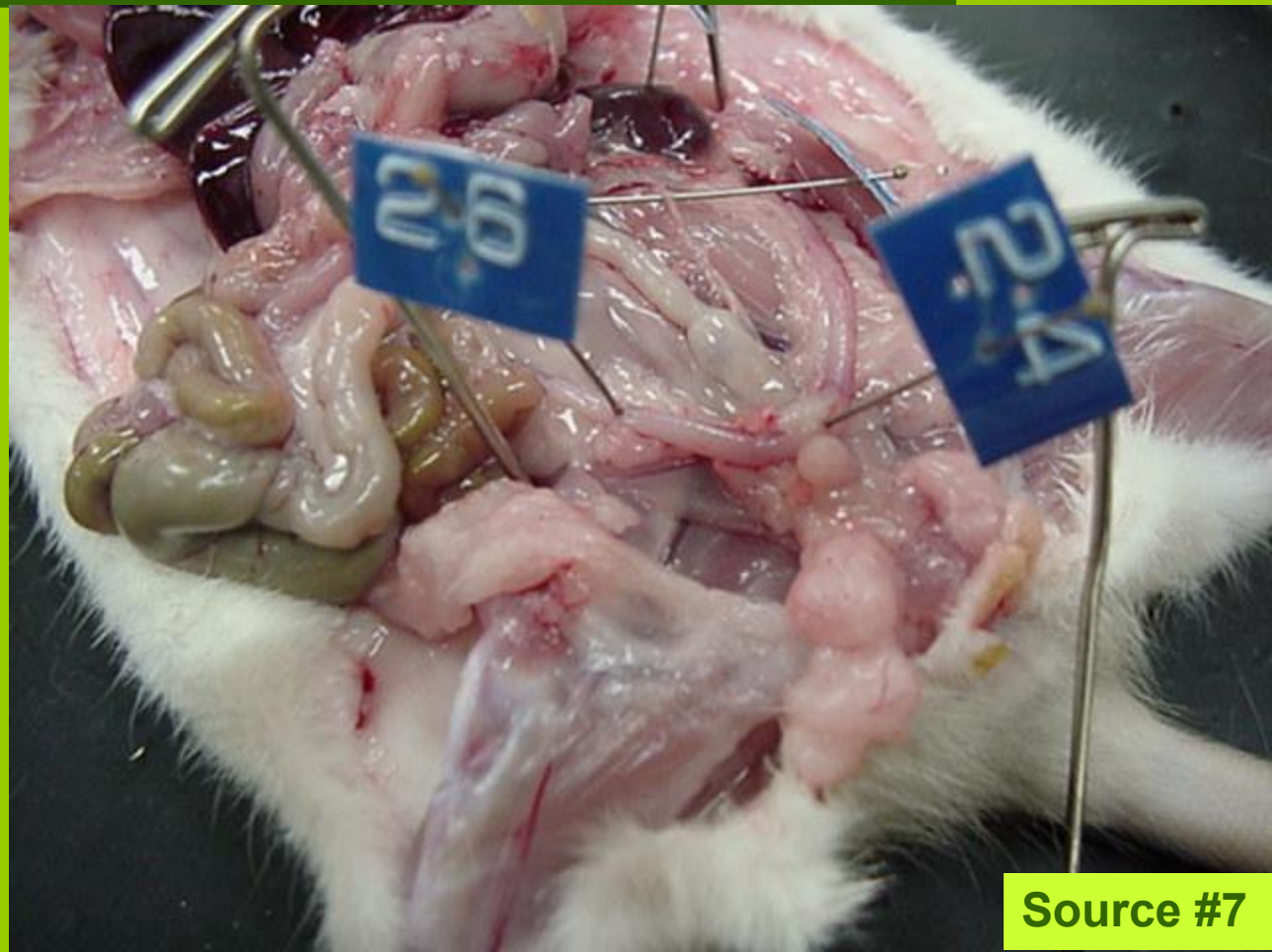
Review and Quiz Yourself



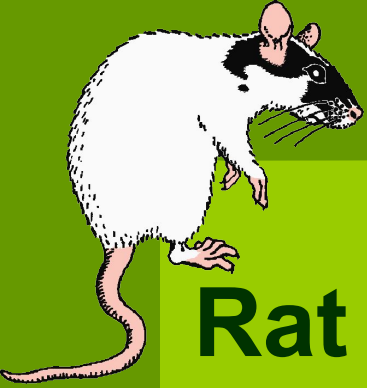
Rat Dissection

TAGGED ORGANS

- 24. Urinary Bladder
- 26. Uterine Horn



Source #7



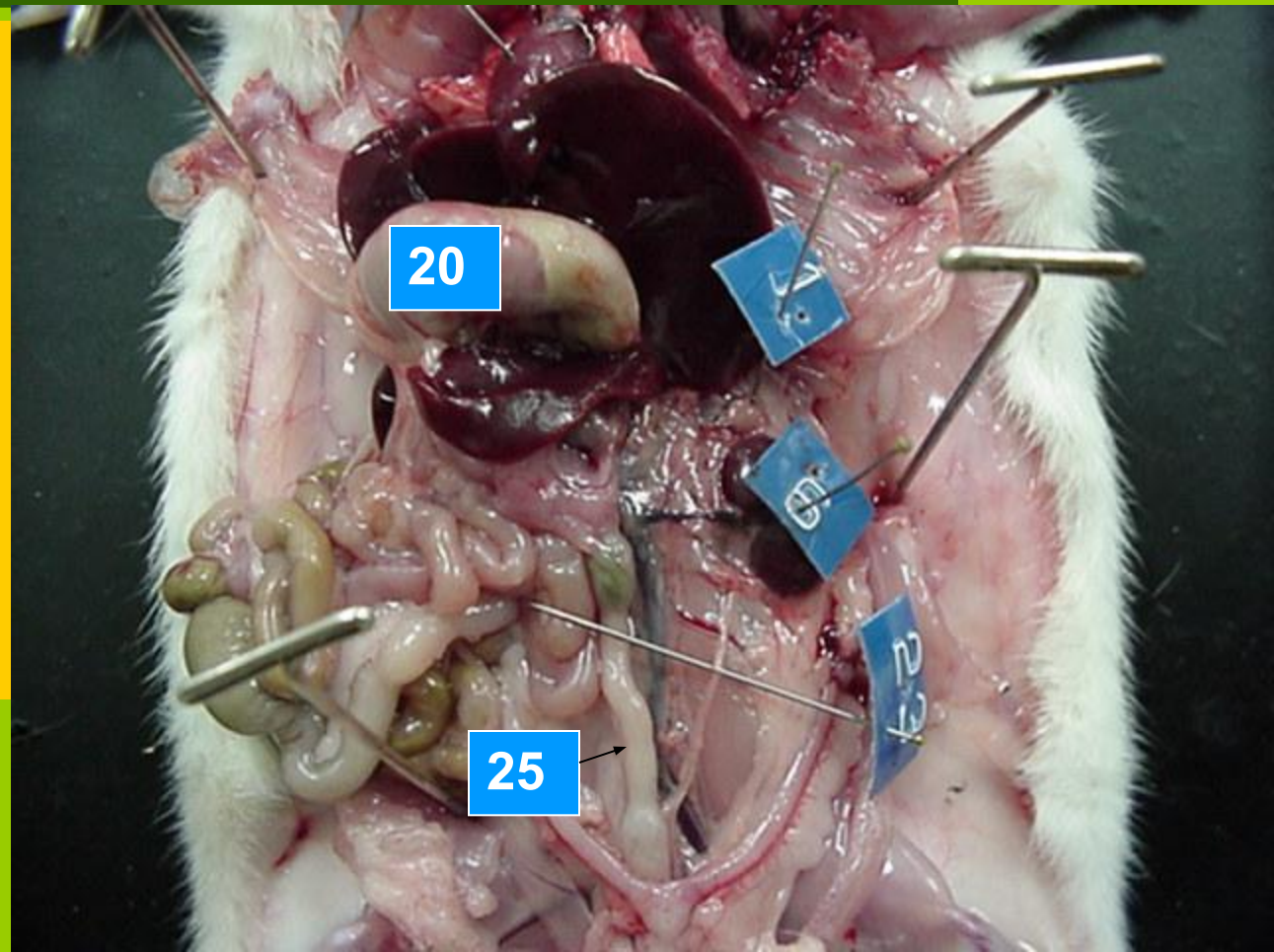
Review and Quiz Yourself

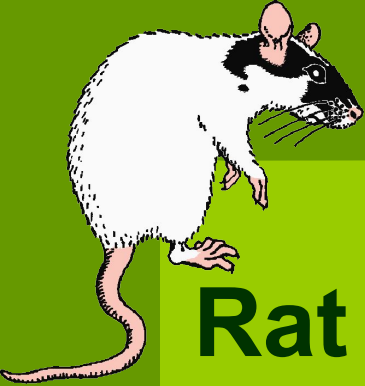


Rat Dissection

TAGGED ORGANS

1. Adrenal Gland
6. Kidney
20. Stomach
23. Ureter
25. Rectum





Review and Quiz Yourself



Rat Dissection

ANATOMICAL TERMS

NAME THAT FUNCTION:

1. Toward the midline **Medial**
2. Toward the back (upper surface of body)
3. Toward the tail **Caudal**
4. Toward the side **Lateral**
5. Farthest from the point of attachment **Distal**
6. Toward the belly (underside of body) **Ventral**
7. Closest to the point of attachment **Proximal**
8. Toward the head **Cranial**

Here's a word bank to help you out:

Caudal

Cranial

Distal

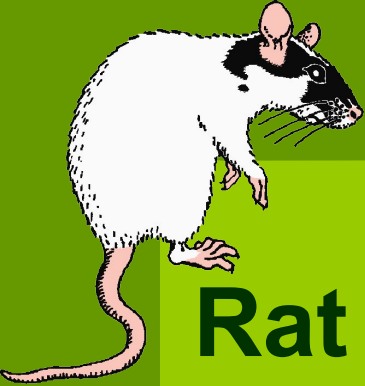
Dorsal

Lateral

Medial

Proximal

Ventral



Review and Quiz Yourself

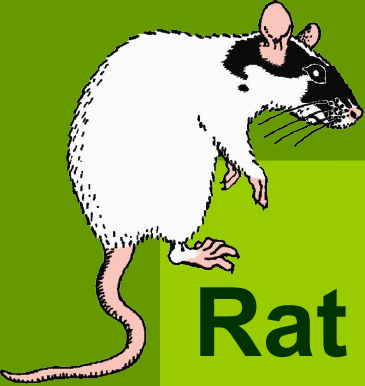


Rat Dissection

ANATOMICAL TERMS

NAME THAT FUNCTION:

1. The term referring to bending of a joint **Flexion**
2. The term referring to movement of an appendage toward the long axis of the body **Adduction**
3. The term referring to straightening of a joint **Extension**
4. The term referring to movement of an appendage away from the long axis of the body **Abduction**



Review and Quiz Yourself



Rat Dissection

ORGAN FUNCTION

NAME THAT ORGAN:

1. The whiskers, which have a sensory function
2. The flap-like external ear that directs sound waves into the ear opening
3. Paired openings leading into the nose
4. Organs of the thoracic and abdominal cavities
5. A partition or wall separating 2 cavities
6. A membrane which suspends the organs
7. Shiny membrane that lines the abdominal cavity

Here's a word bank to help you out:

Nares

Mesentery

Nares

Peritoneum

Pinna

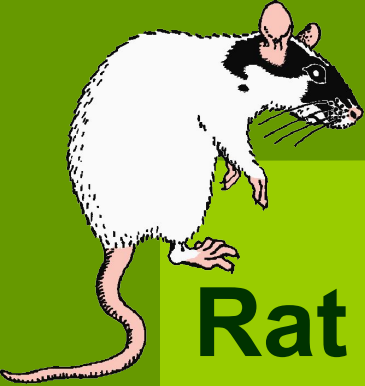
Septum

Septum

Vibrissae

Peritoneum

Viscera



Review and Quiz Yourself



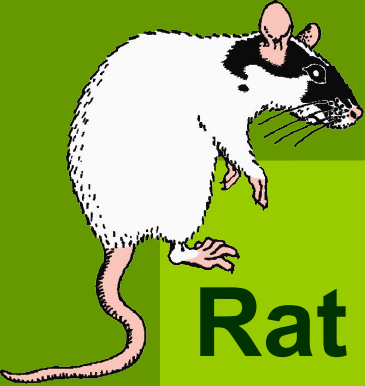
Rat Dissection

ORGAN FUNCTION

NAME THAT MUSCLE:

Here's a word

- | | | |
|---|------------------|-------------------|
| 1. Abducts the thigh | Biceps Femoris | Gluteus Maximus |
| 2. Extends the forelimb | Triceps Brachii | Biceps Brachii |
| 3. Constricts the abdomen | External Oblique | Biceps Femoris |
| 4. Closes the jaw | Masseter | External Obliques |
| 5. Adducts the thigh | Gracilis | Gastrocnemius |
| 6. Flexes the forelimb | Biceps Brachii | Gluteus Maximus |
| 7. Draws the forelimb toward the chest | Pectoralis Major | Gracilis |
| 8. Extends the foot | Gastrocnemius | Latissimus Dorsi |
| 9. Moves the forelimb dorsally + caudally | Latissimus Dorsi | Masseter |
| | | Pectoralis Major |



Review and Quiz Yourself



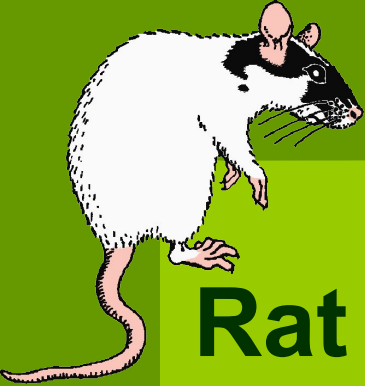
Rat Dissection

ORGAN FUNCTION

NAME THAT ORGAN:

1. Produces WBC's (White blood cells) **Thymus Gland**
2. Moves food in mouth and tastes **Tongue**
3. Organs for gas exchange **Lungs**
4. Windpipe leading from pharynx to lungs **Trachea**
5. Bony anterior roof of mouth **Hard Palate**
6. Muscular sheet that separates the thoracic and abdominal cavities **Diaphragm**
7. Incisors (biting) and molars (grinding) **Teeth**
8. Muscular posterior roof of mouth **Soft Palate**
9. Affects metabolic rate and body growth **Thyroid Gland**

Thymus Gland
Tongue
Diaphragm
Hard Palate
Lungs
Soft Palate
Teeth
Thymus Gland
Thyroid Gland
Tongue
Soft Palate
Thyroid Gland



Review and Quiz Yourself



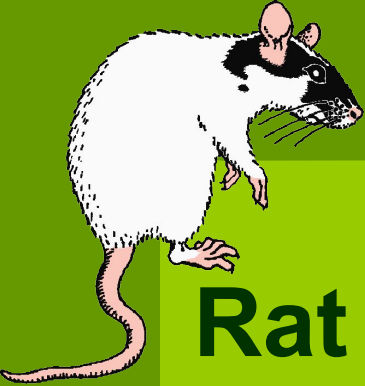
Rat Dissection

ORGAN FUNCTION

NAME THAT ORGAN:

- 1. Produces insulin for glucose metabolism **Pancreas**
- 2. Aids in digestion of proteins **Stomach**
- 3. Food tube from pharynx to stomach **Esophagus**
- 4. Digests and absorbs nutrients **Small Intestine**
- 5. Folds in stomach that help mix food **Rugae**
- 6. Secretes bile, cleans blood, stores glycogen **Liver**
- 7. Cleans blood, removes old RBC's **Spleen**
- 8. Reabsorption of water **Large Intestine**
- 9. Blind pouch where ileum joins colon **Cecum**
- 10. End of intestines, compaction of feces **Rectum**

you out:
 Cecum
 Esophagus
 Large Intestine
 Liver
 Pancreas
 Small Intestine
 Spleen
 Stomach
 Cecum



Review and Quiz Yourself



Rat Dissection

ORGAN FUNCTION

NAME THAT ORGAN:

1. Removes wastes + excess H₂O from blood
2. Houses developing fetuses
3. Produces and stores sperm
4. Stores urine before excretion
5. Secretes a fluid that aids sperm survival and motility
6. Produces eggs
7. Carry urine from kidney to bladder
8. Secretes a fluid that nourishes sperm
9. Sac that holds the testes

Kidney word bank to help you out:

- Bladder
- Kidney
- Ovary
- Prostate
- Scrotum
- Seminal Vesicle
- Testes
- Ureter

Ovary

Uterine Horn

Testes

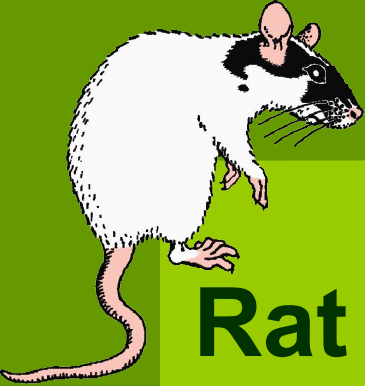
Bladder

Prostate

Ureter

Seminal Vesicle

Scrotum



Review and Quiz Yourself



Rat Dissection

ORGAN FUNCTION

NAME THAT ORGAN:

1. Takes blood from heart to lungs
2. Large veins take blood to right atrium
3. Top chambers, receive blood
4. Membrane around heart
5. Artery taking blood to head
6. Bottom chambers that pump blood out
7. Largest artery taking blood from left ventricle
8. Lower descending aorta takes blood to lower trunk and legs
9. Takes blood to kidneys

Pulmonary Artery

Atria

Pericardial Sac

Common Carotid Artery

Abdominal Aorta

Renal Artery

bank to help you out:

Abdominal Aorta

Aorta

Atria

Common Carotid Artery

Pericardial Sac

Pulmonary Artery

Renal Artery

ventricles