# Rat Dissection

RATS

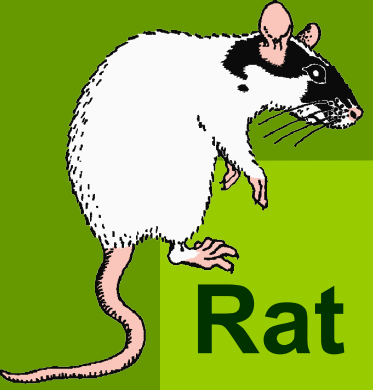
- The following slides are intended to help you with dissection of the rat and then to review for the lab practical that will follow.

# Rat Dissection

RATS

- Scientific Name: *Rattus norvegicus*
- Common Name: Rat

- Kingdom- Animalia
- Phylum- Chordata
- Subphylum- Vertebrata
- Class- Mammalia
- Order- Rodentia



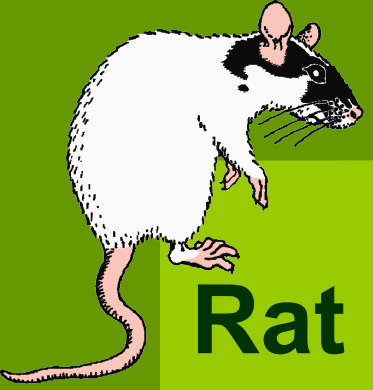
# Rat Dissection

## SOURCES

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

(1) http://www.umanitoba.ca/faculties/science/biological_sciences/lab15/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



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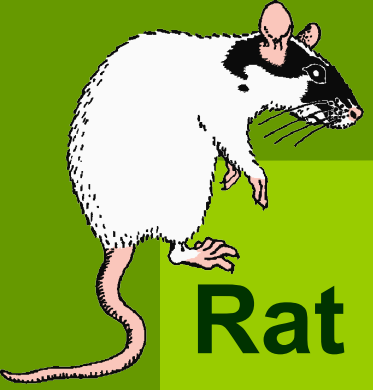
## REMOVING SKIN

Source #4



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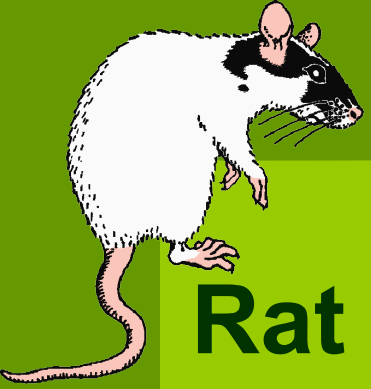
## REMOVING SKIN

Source #7



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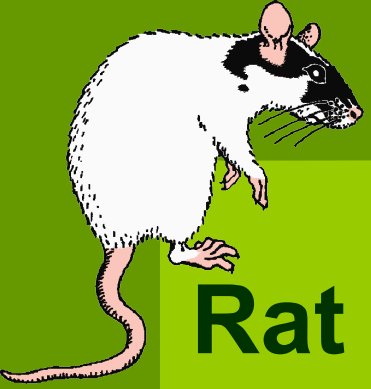

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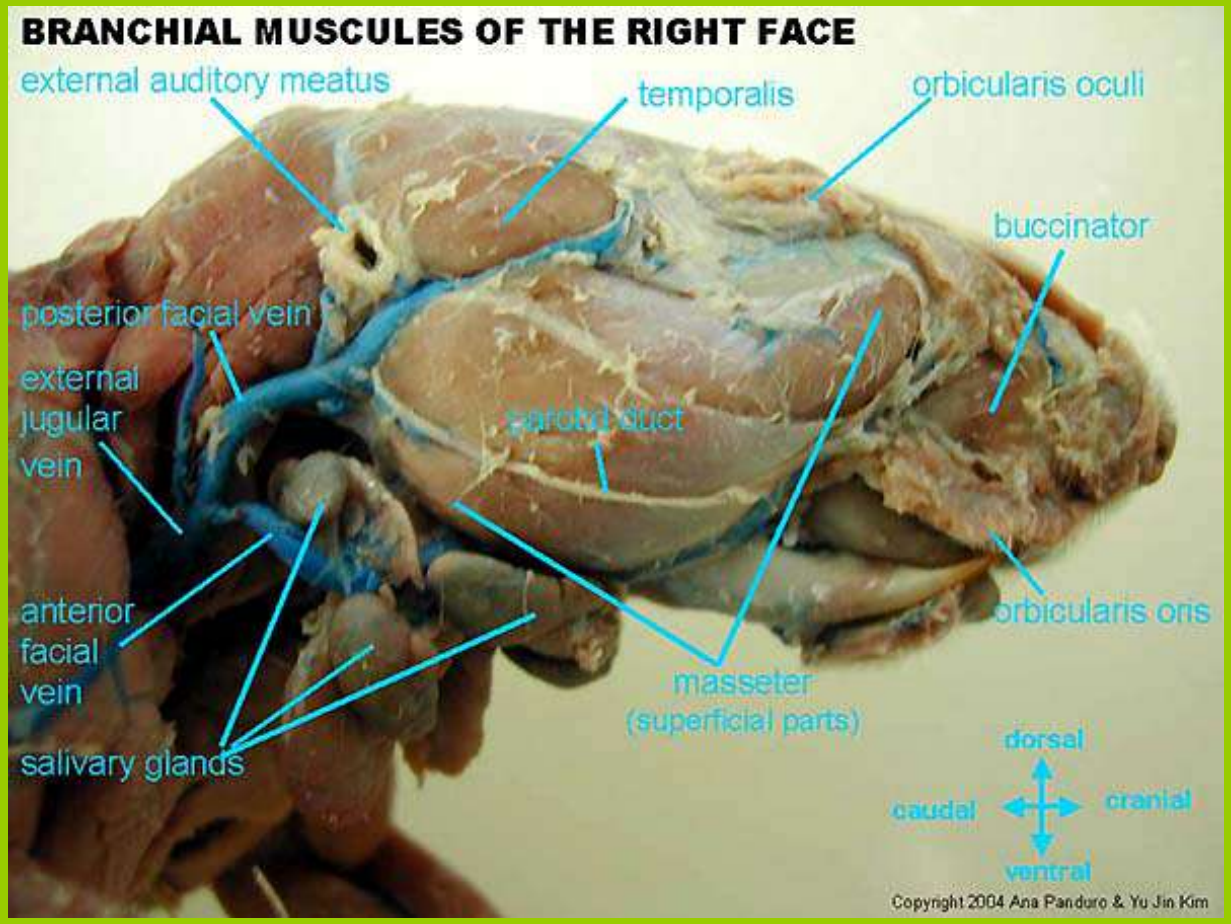
## MUSCLES

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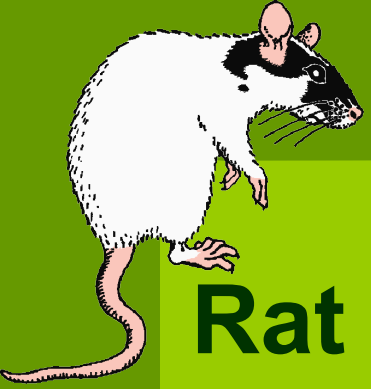

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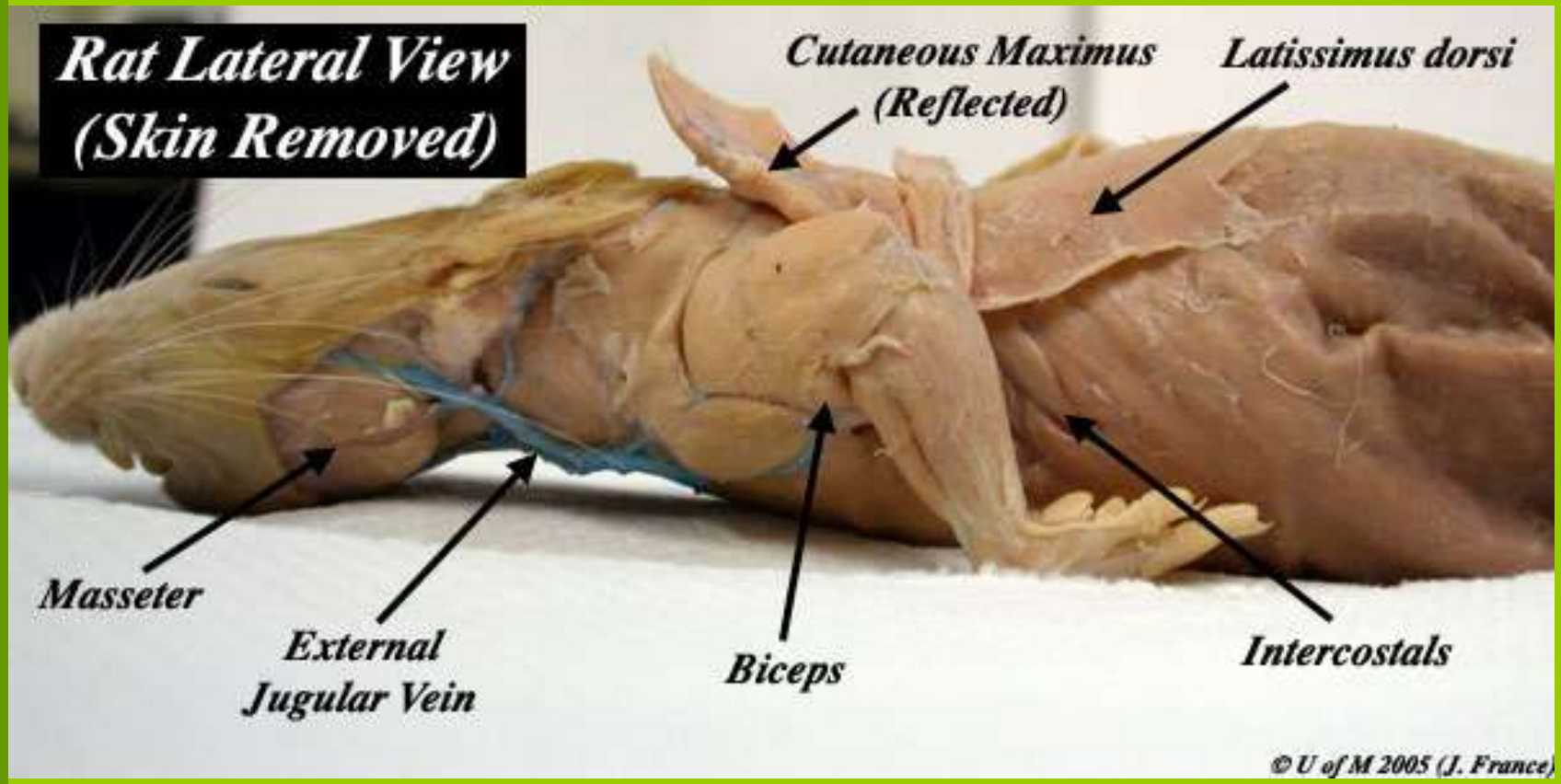


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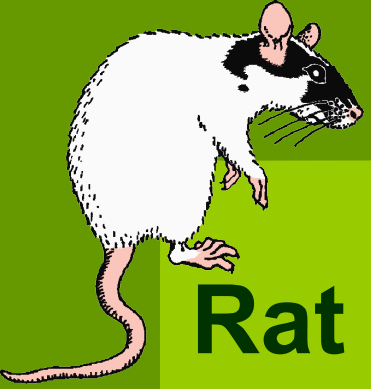

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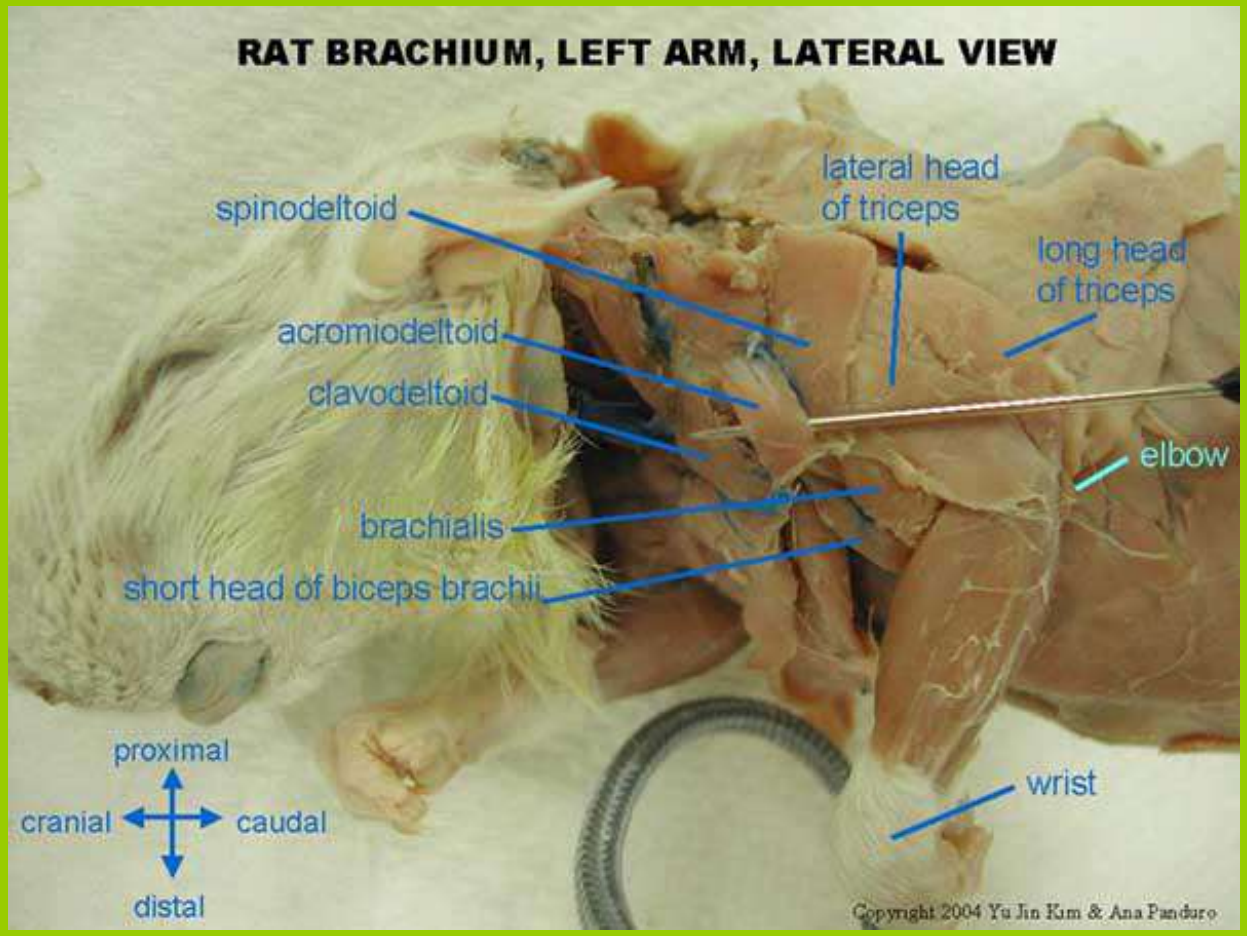


Source #5

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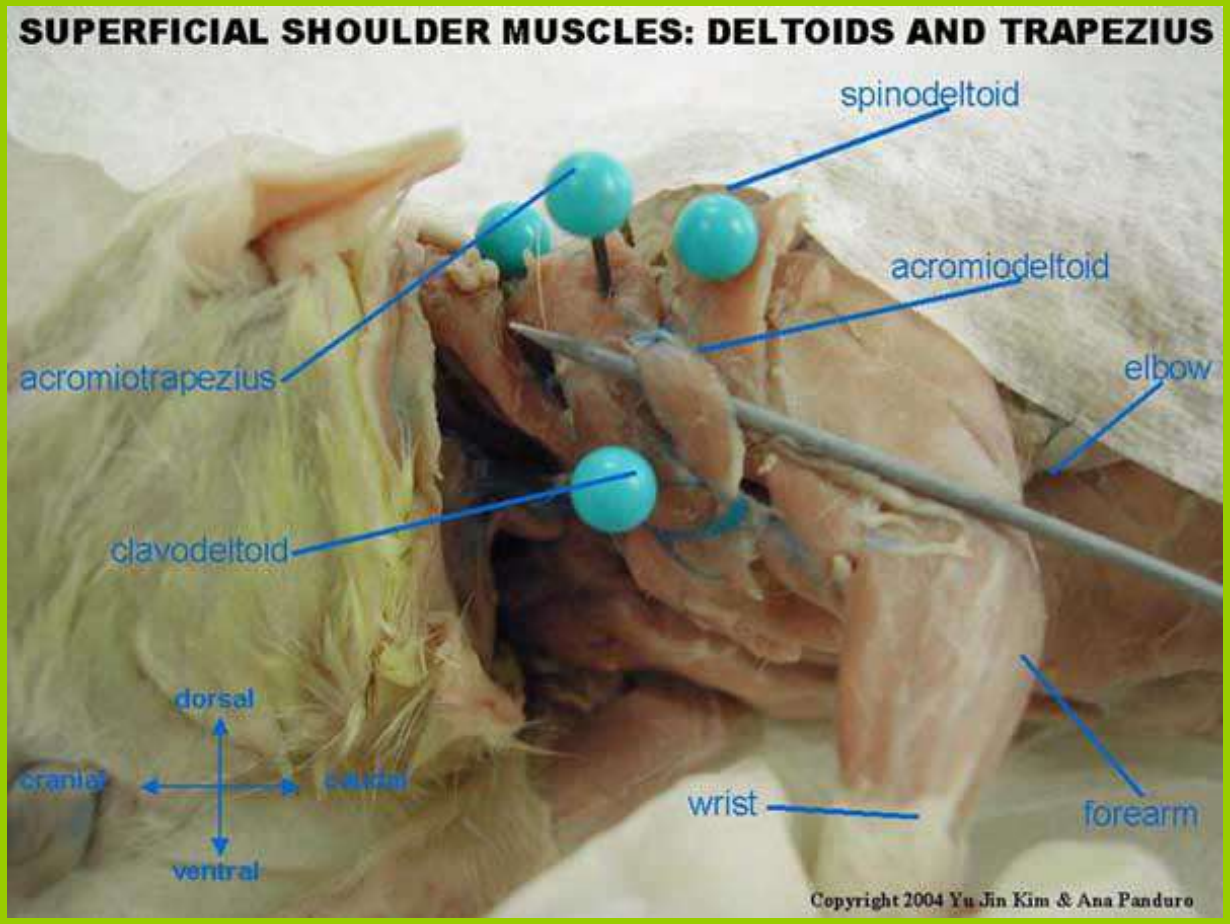


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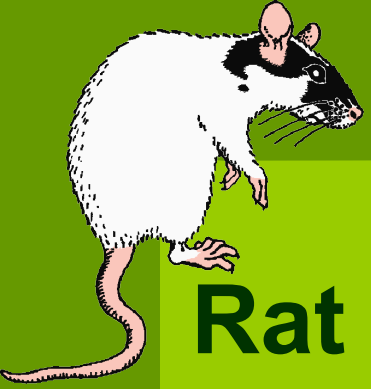

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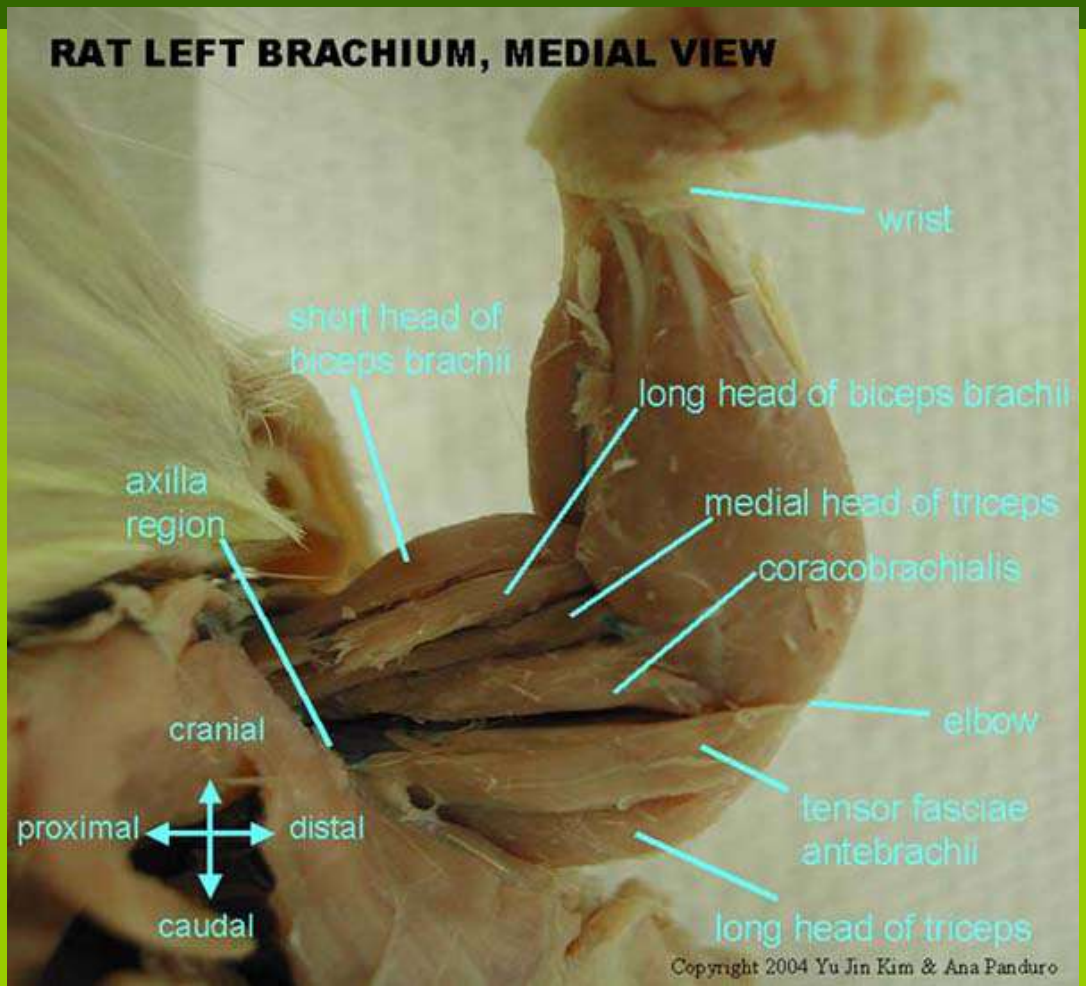


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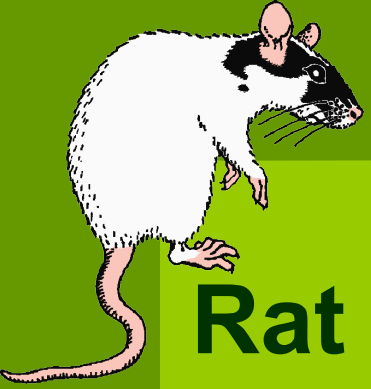

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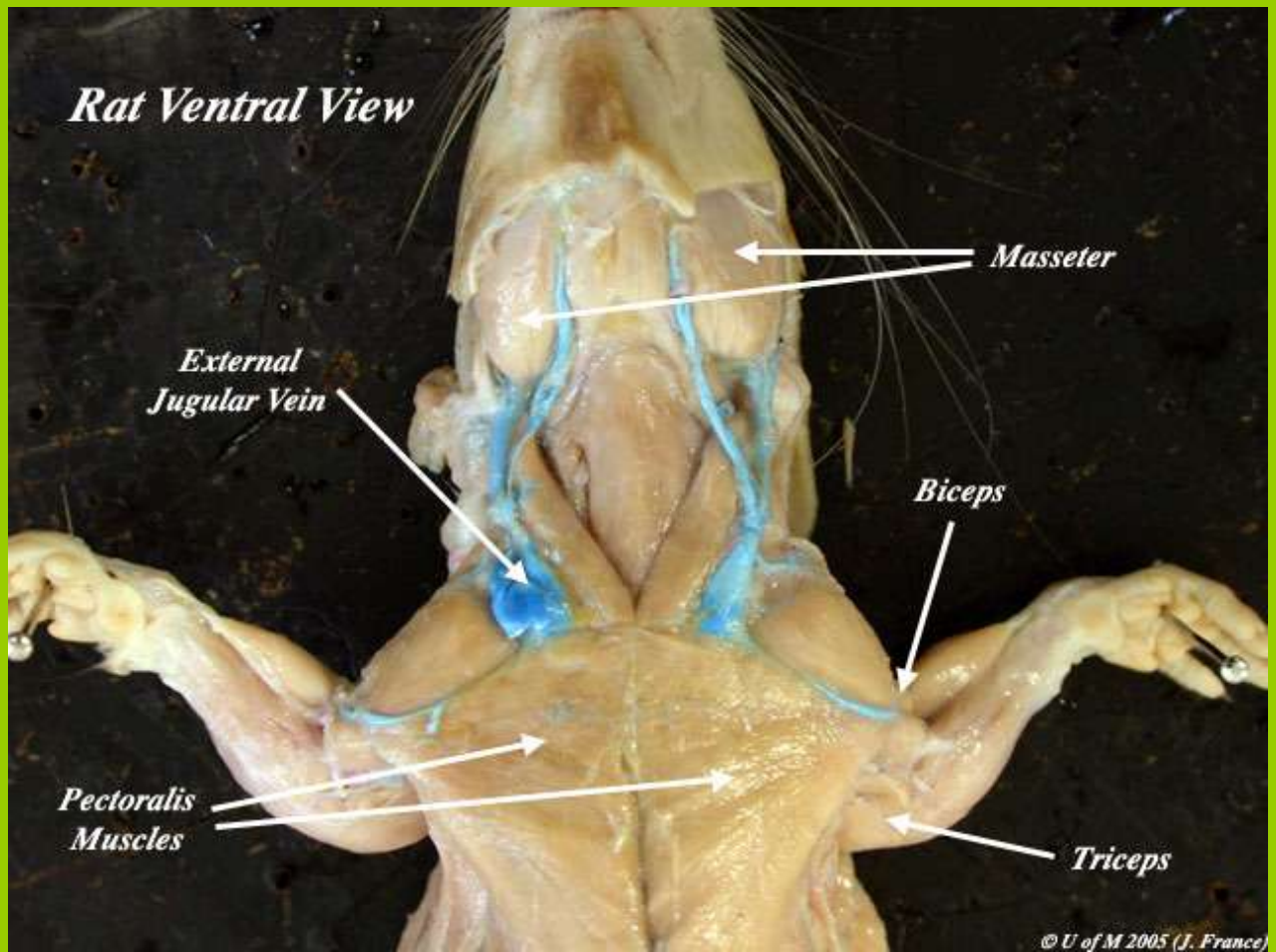


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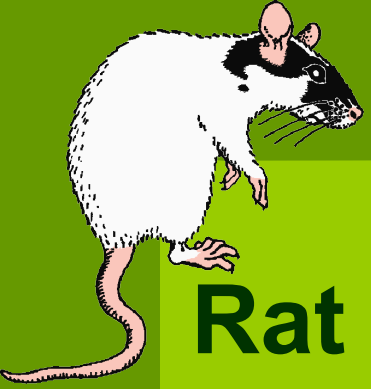

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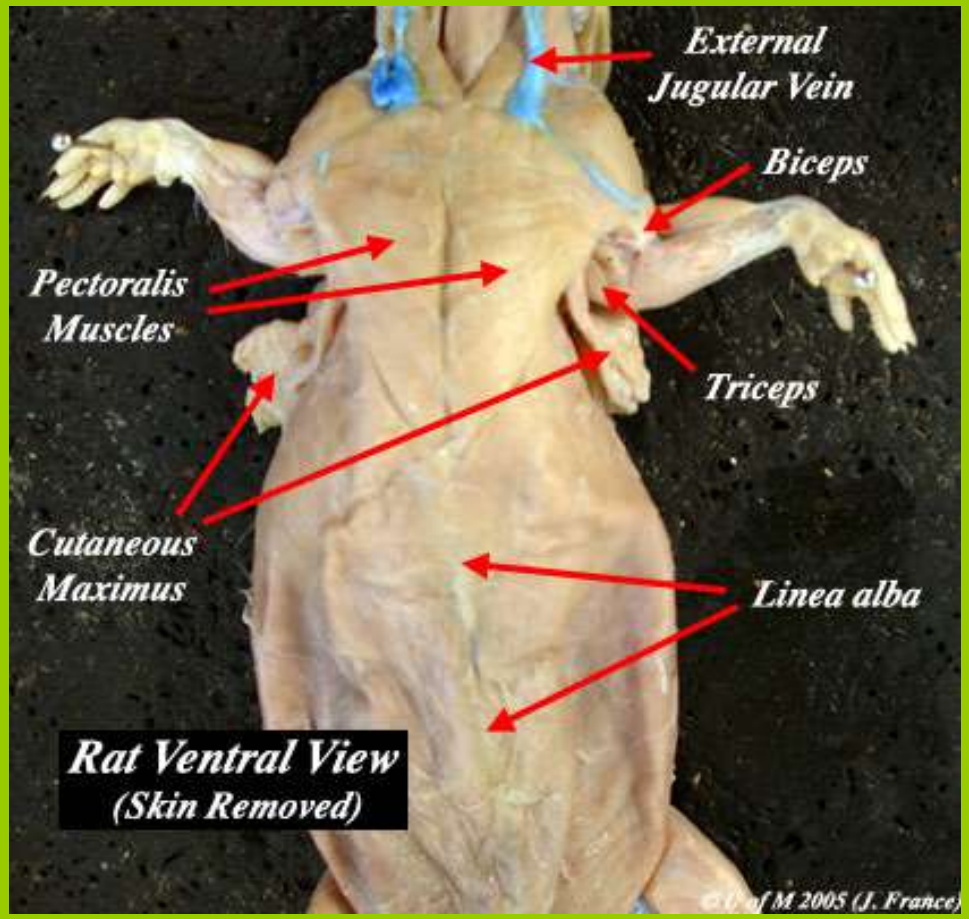


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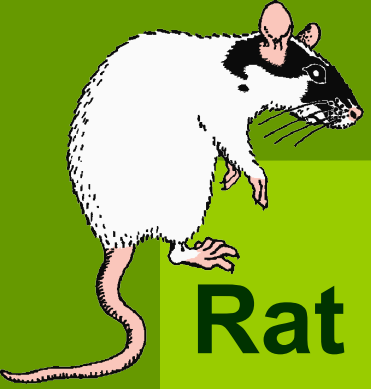

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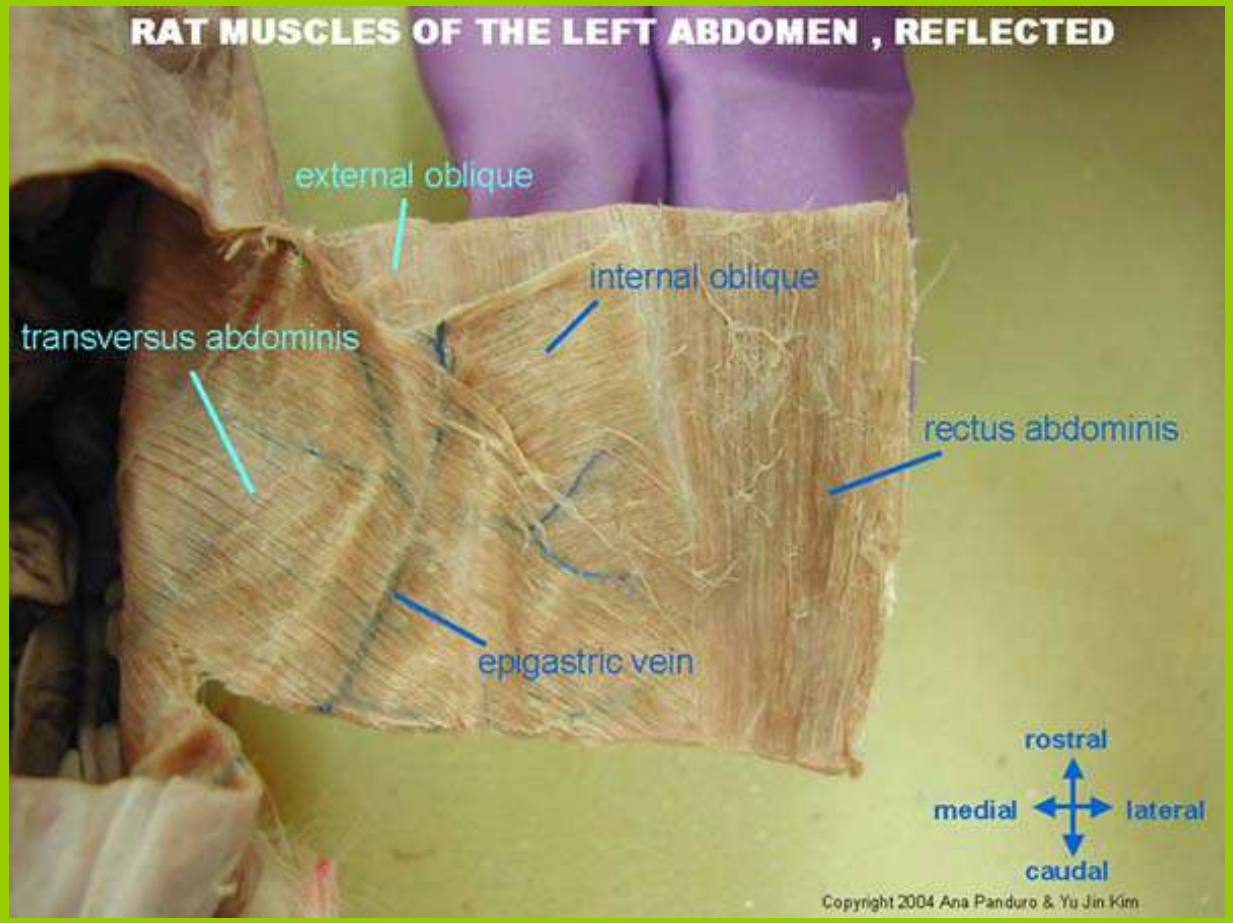


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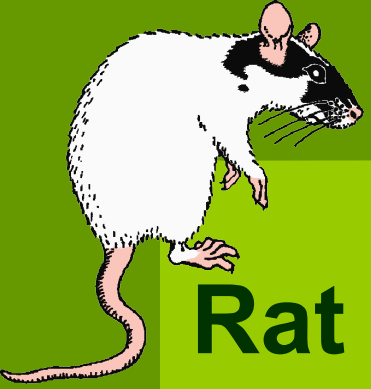

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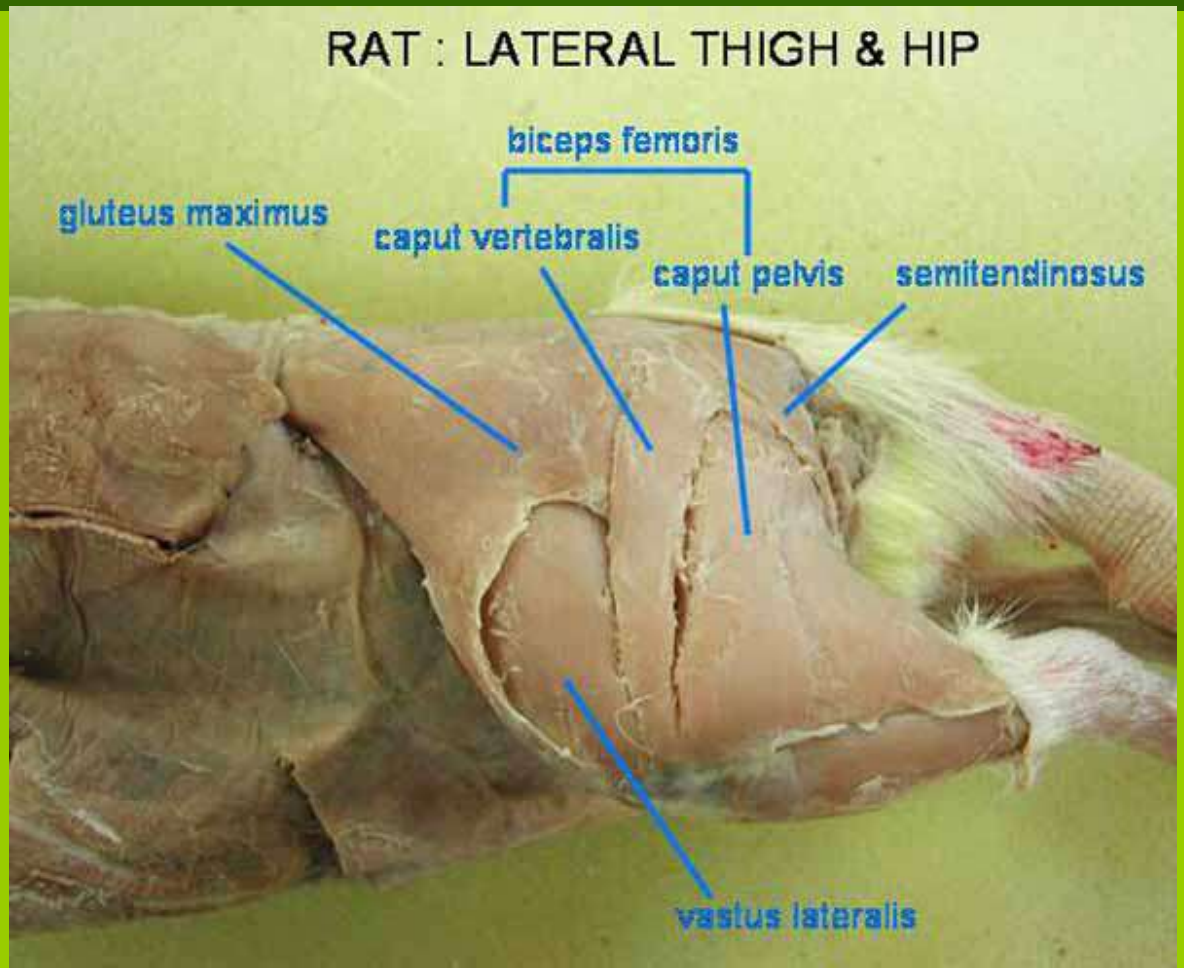


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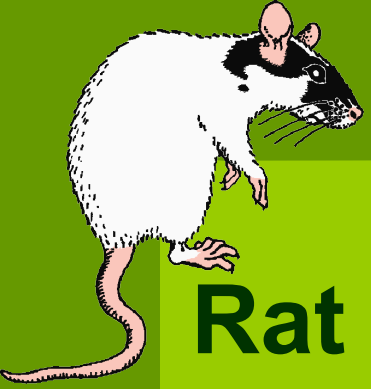

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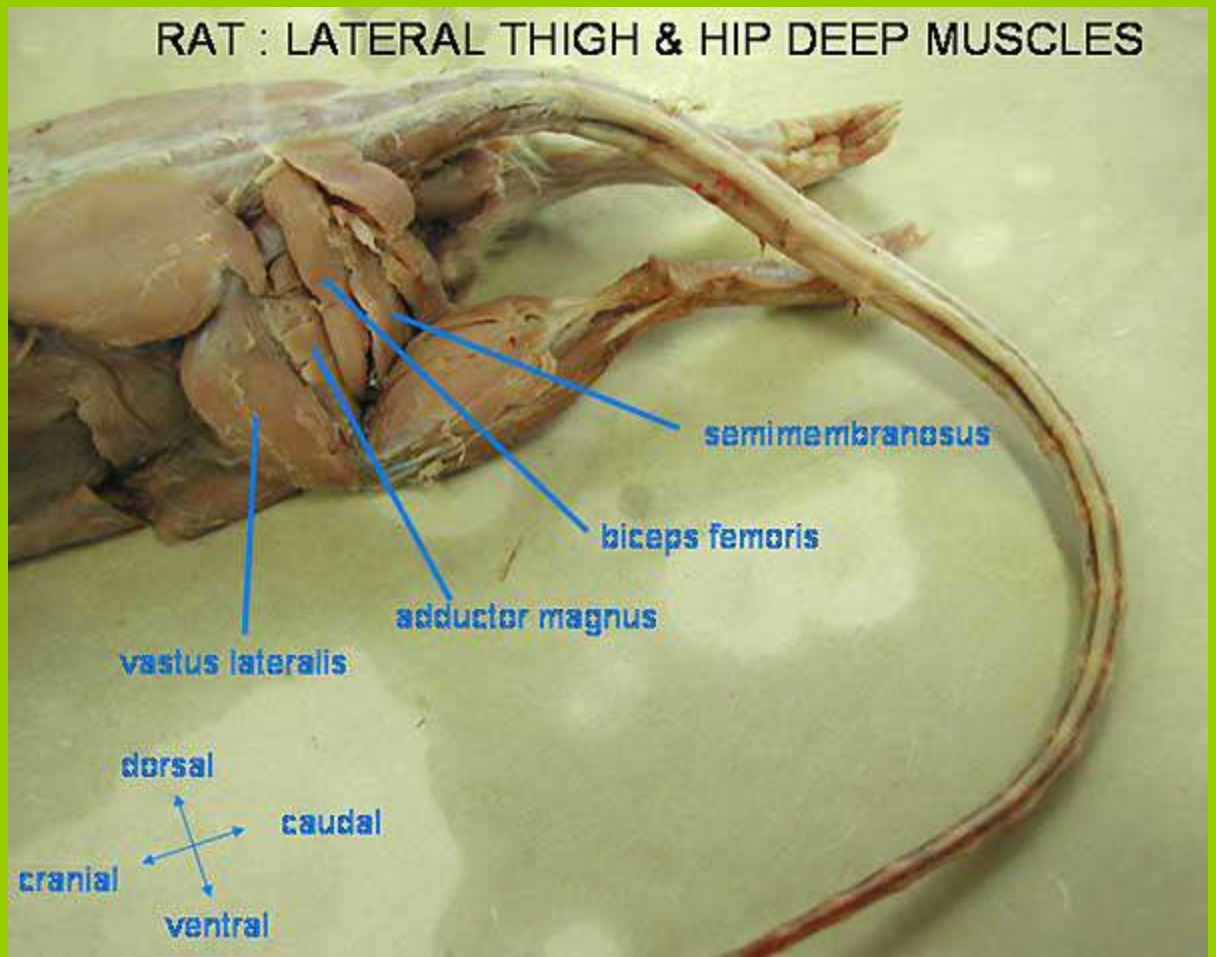


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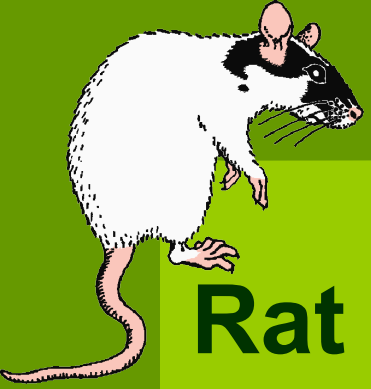

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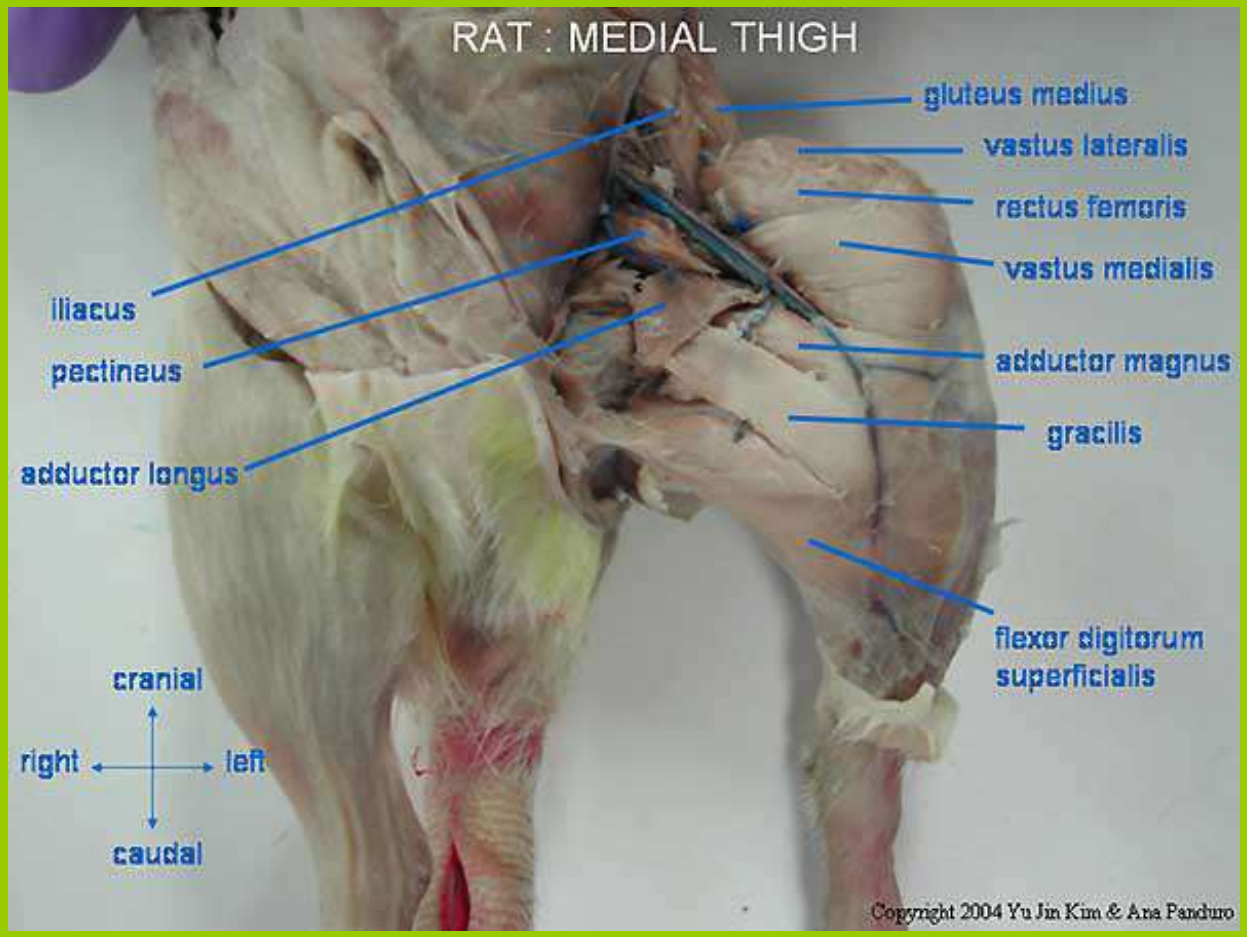


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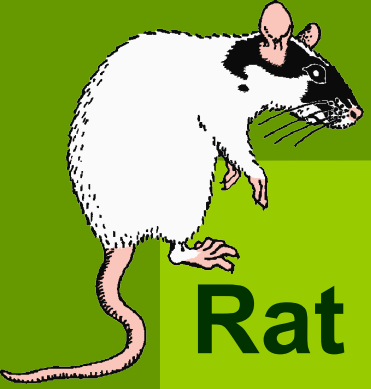

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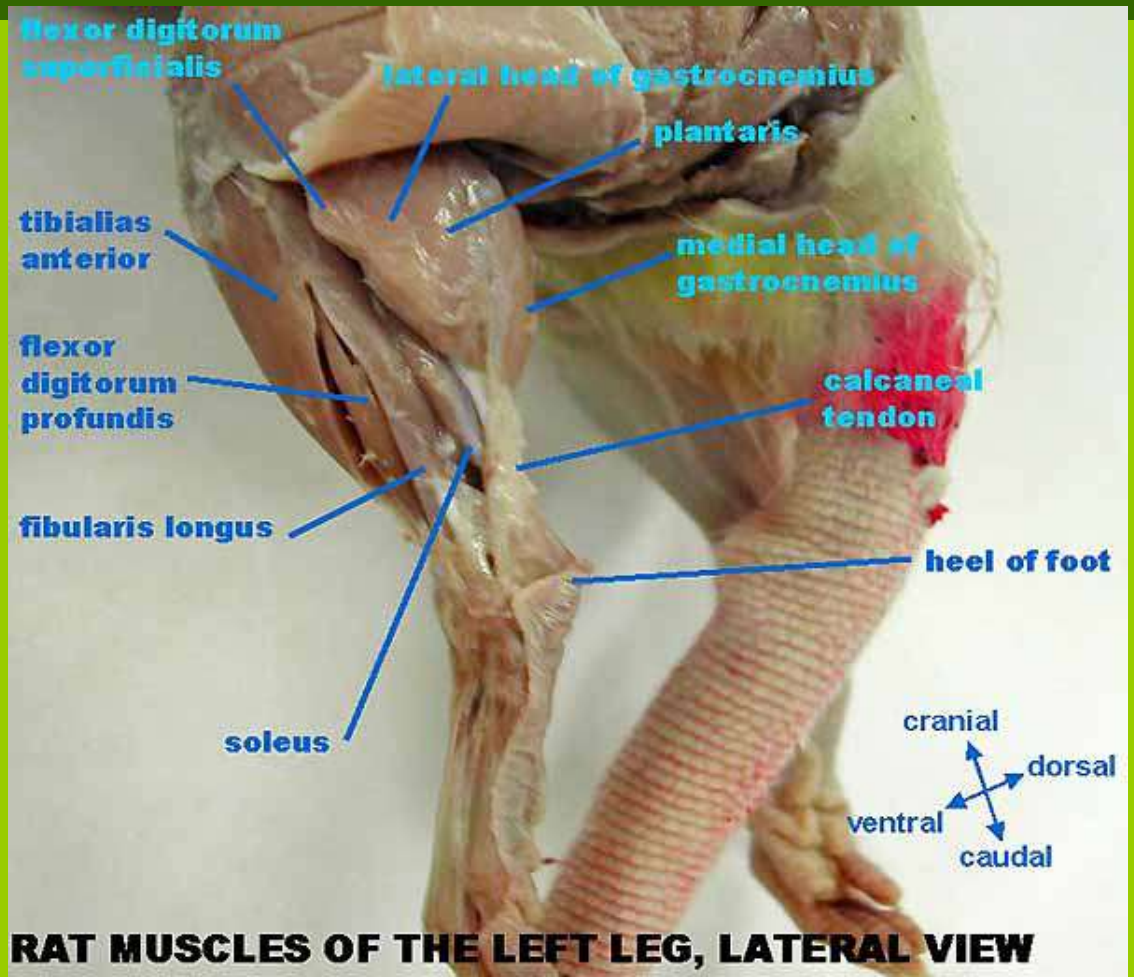
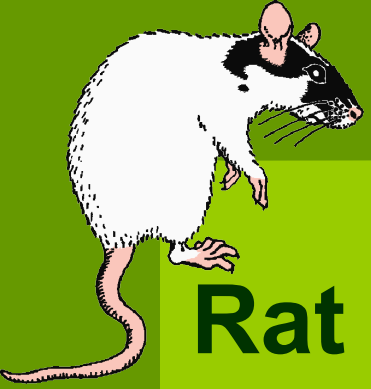



RAT MUSCLES OF THE LEFT LEG, LATERAL VIEW

Source #5



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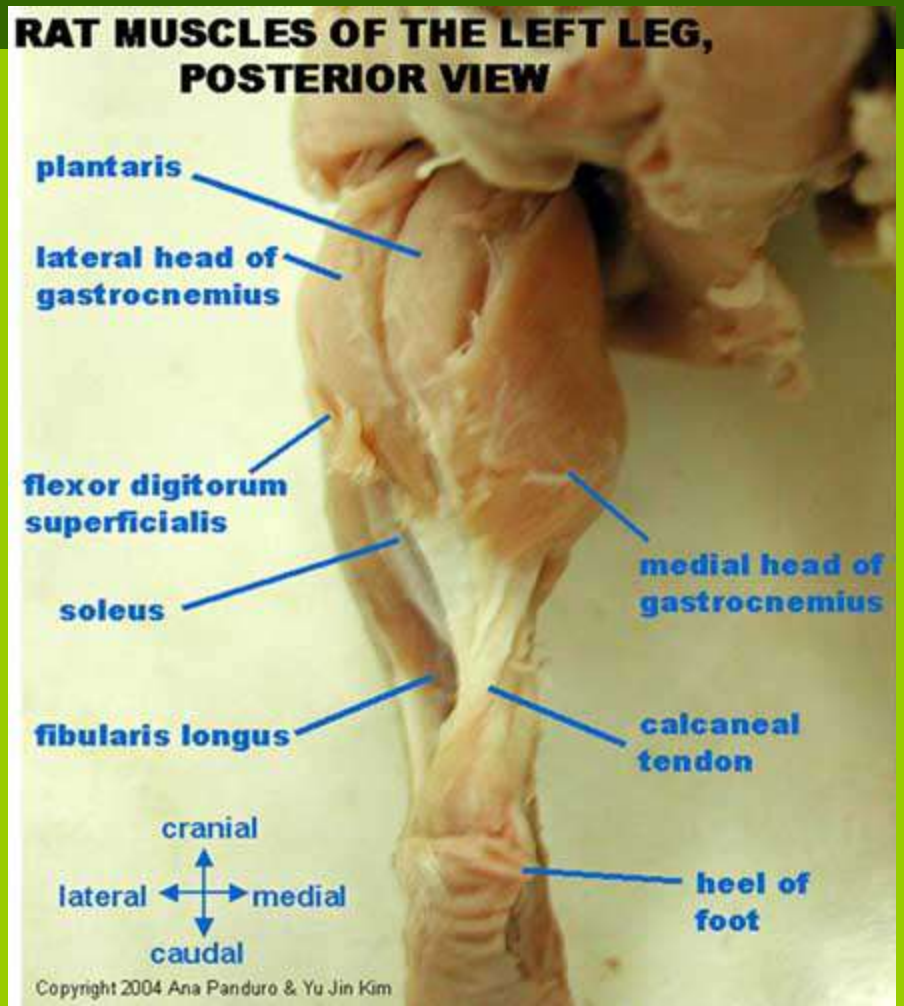


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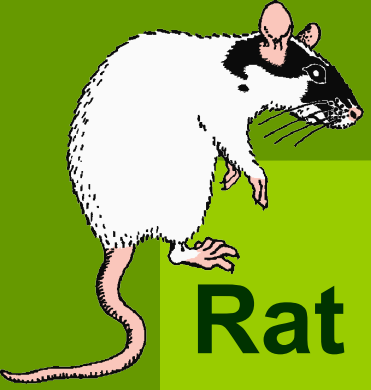

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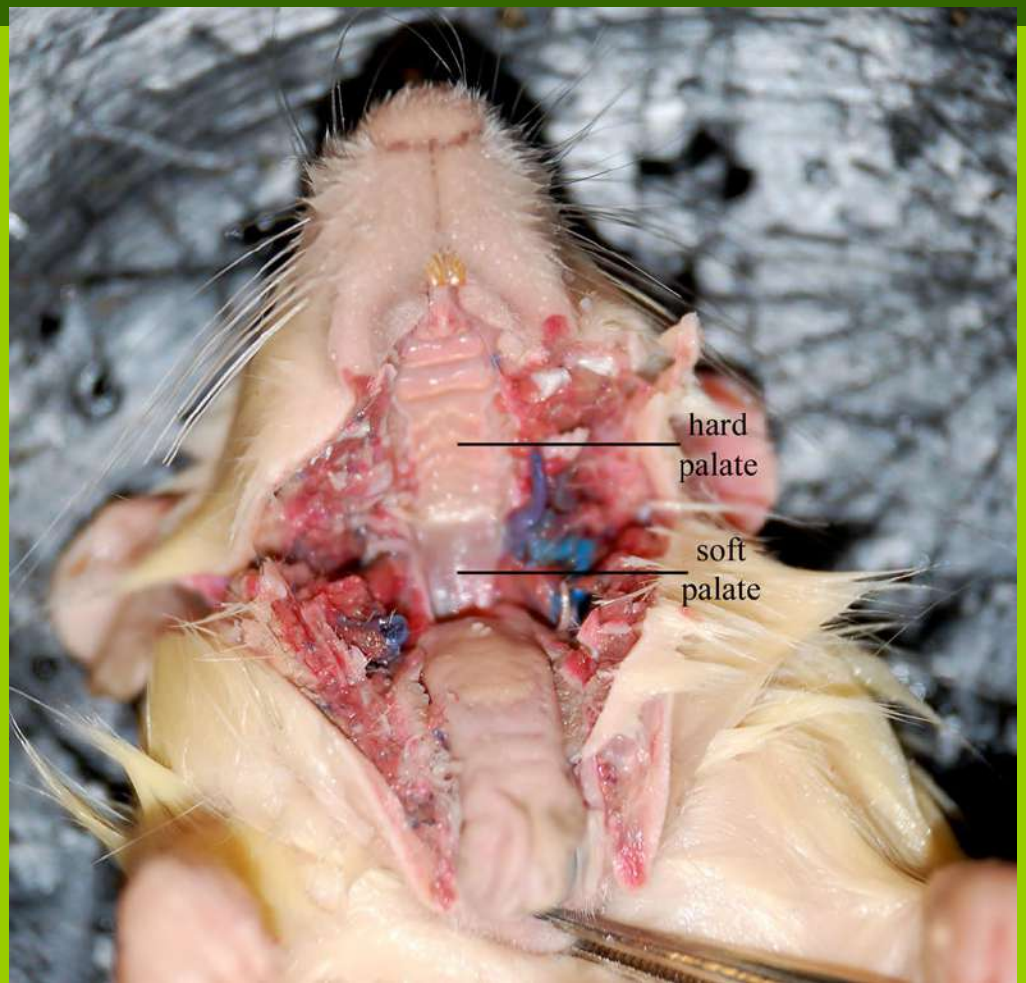
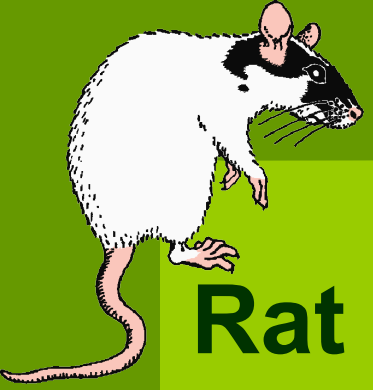
## ORAL CAVITY




Source #6



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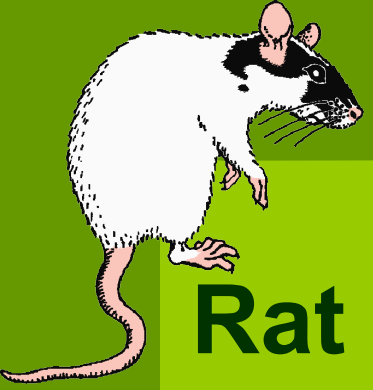

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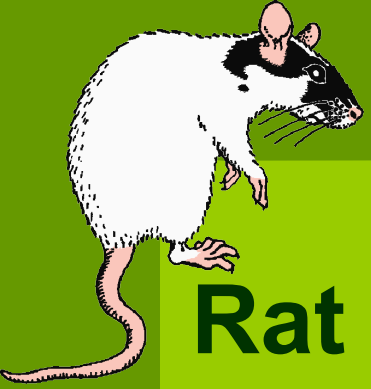
## ABDOMINAL CAVITY

Source #4



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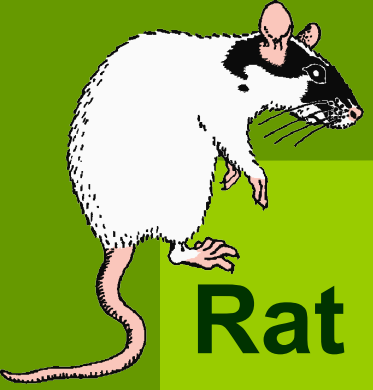

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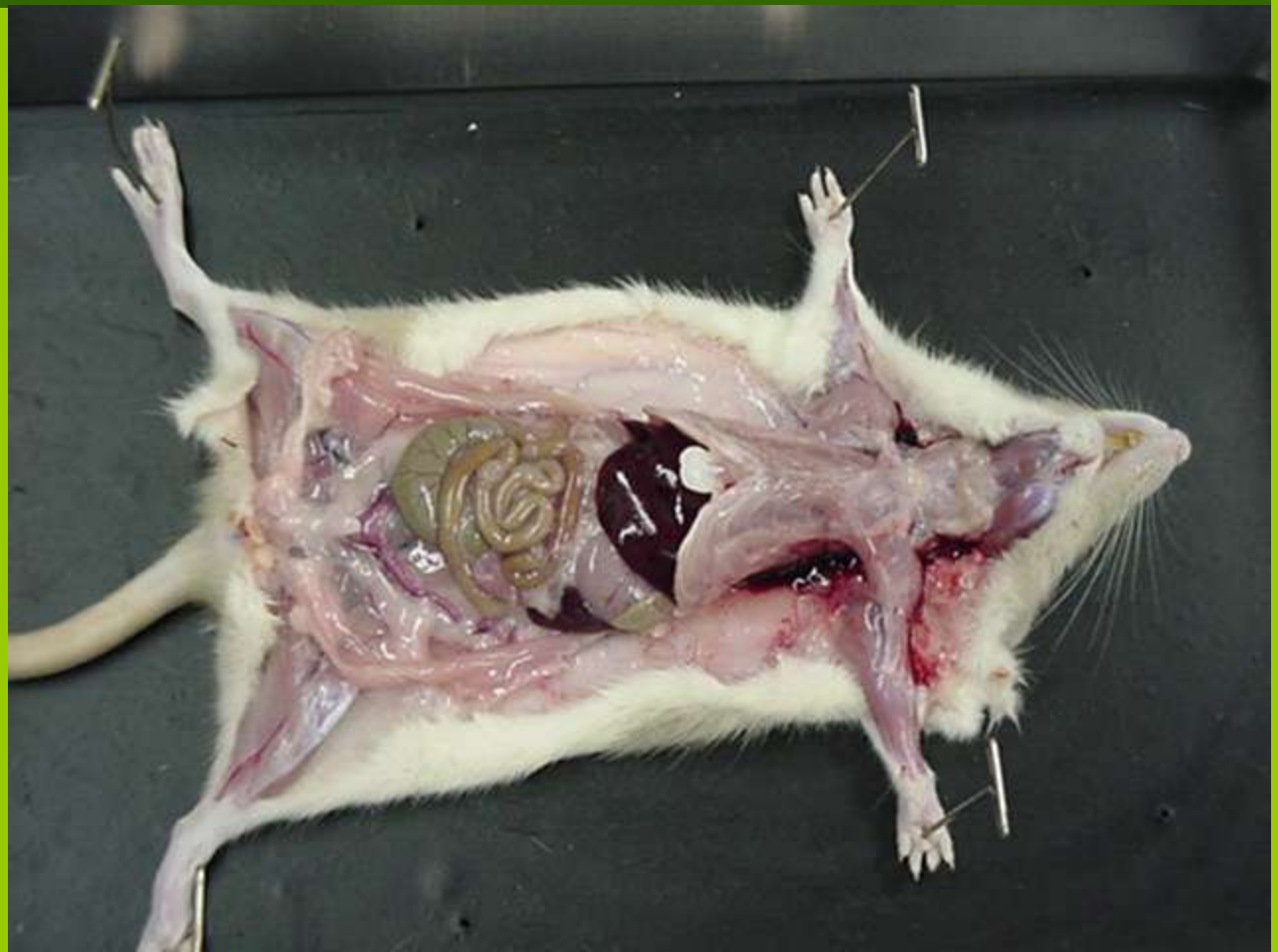

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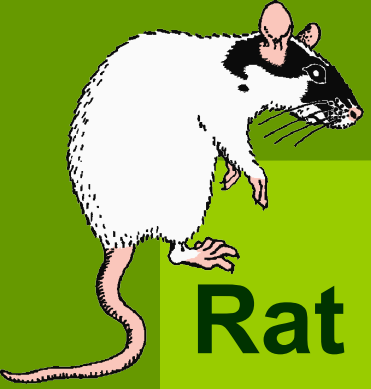

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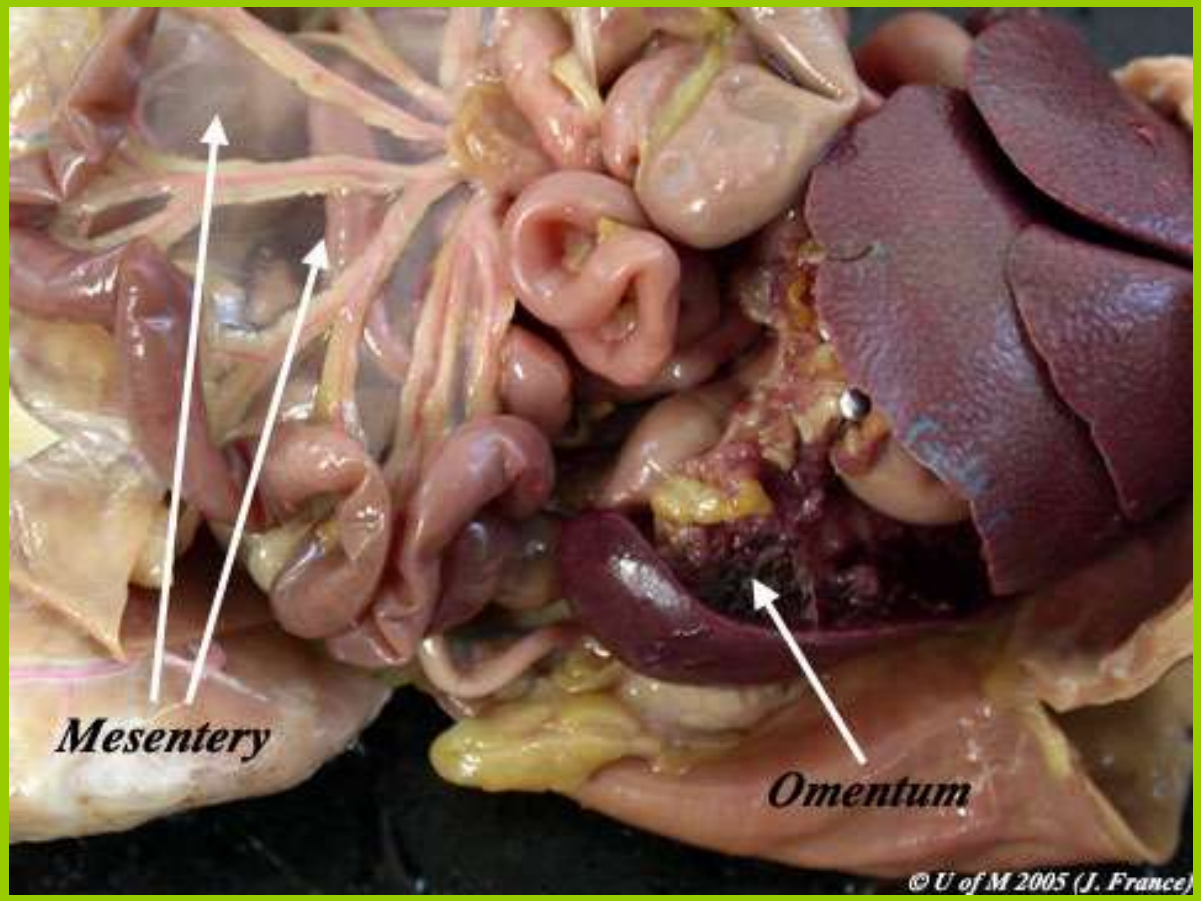
## DIGESTIVE ORGANS

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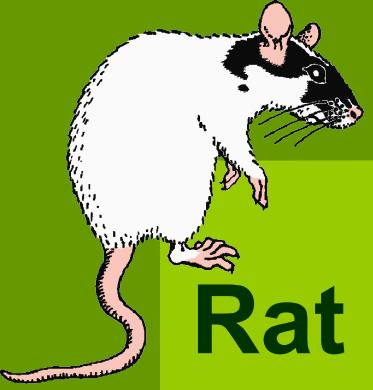

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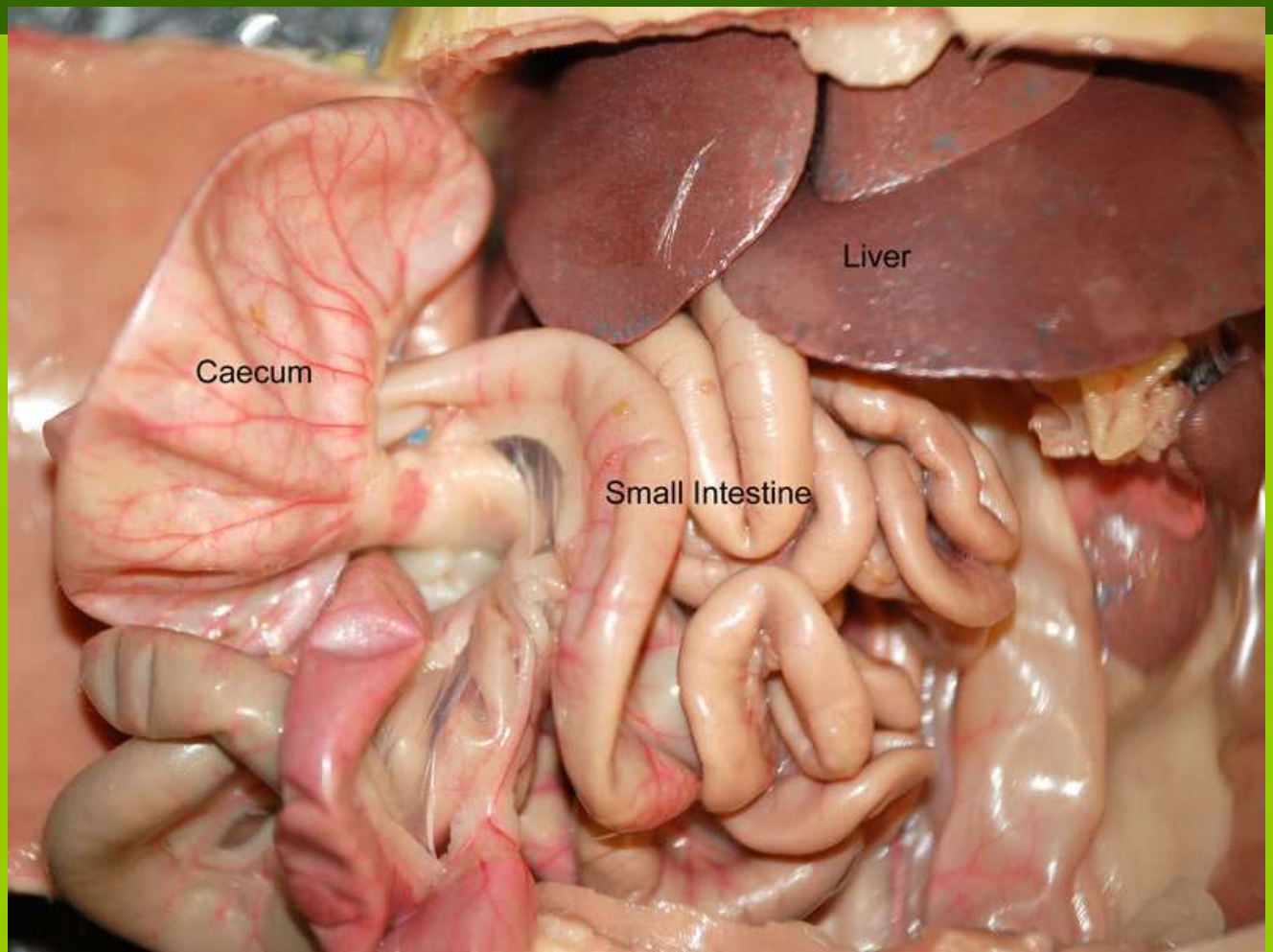


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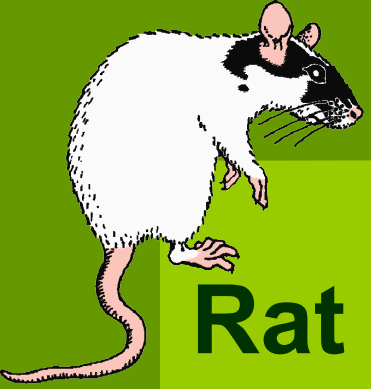

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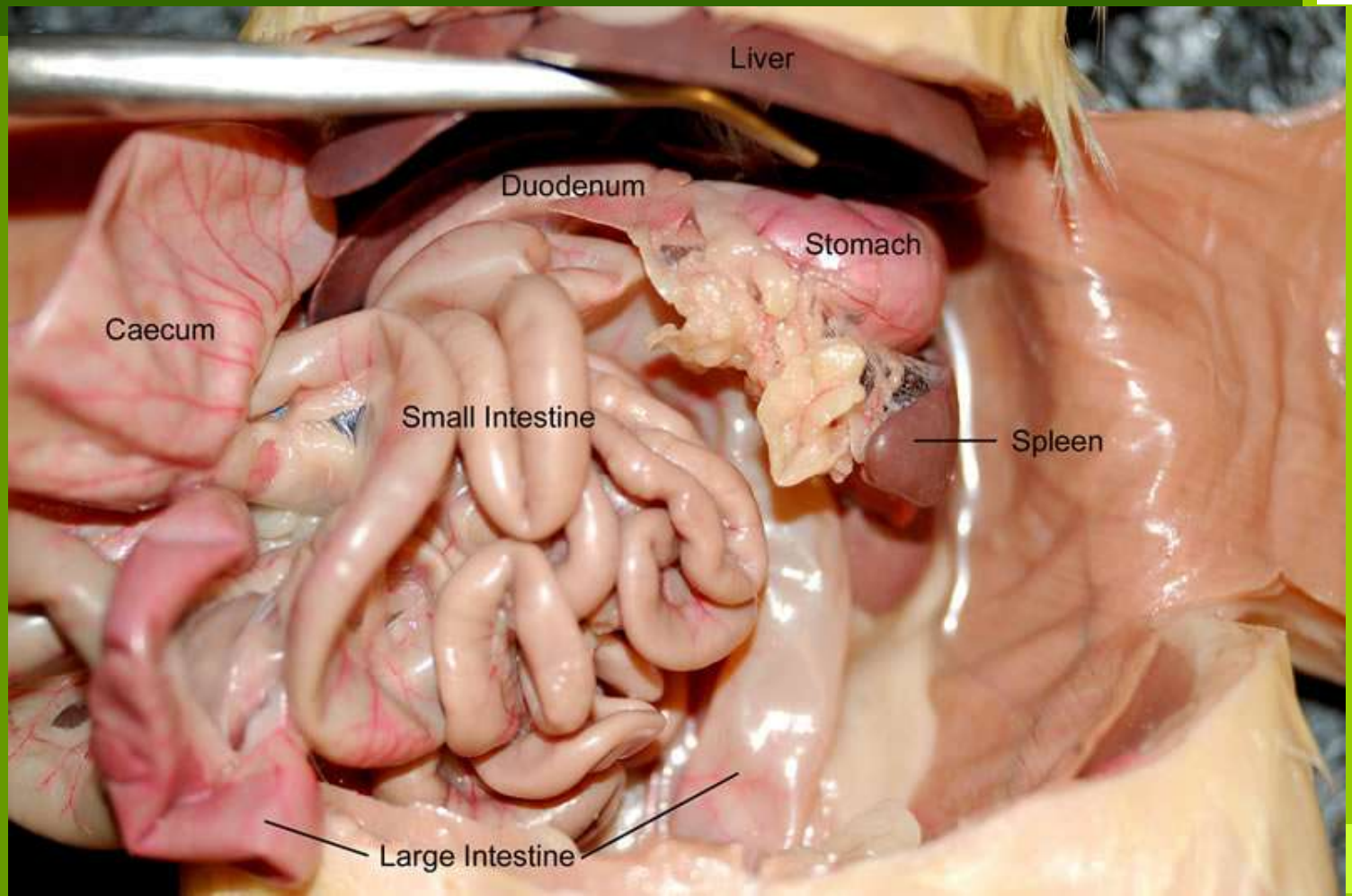


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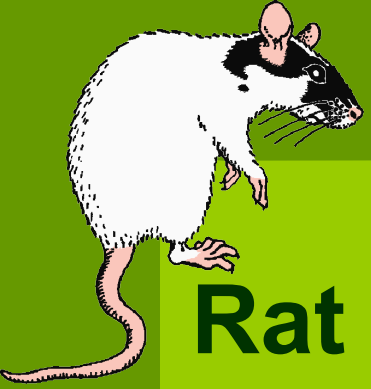

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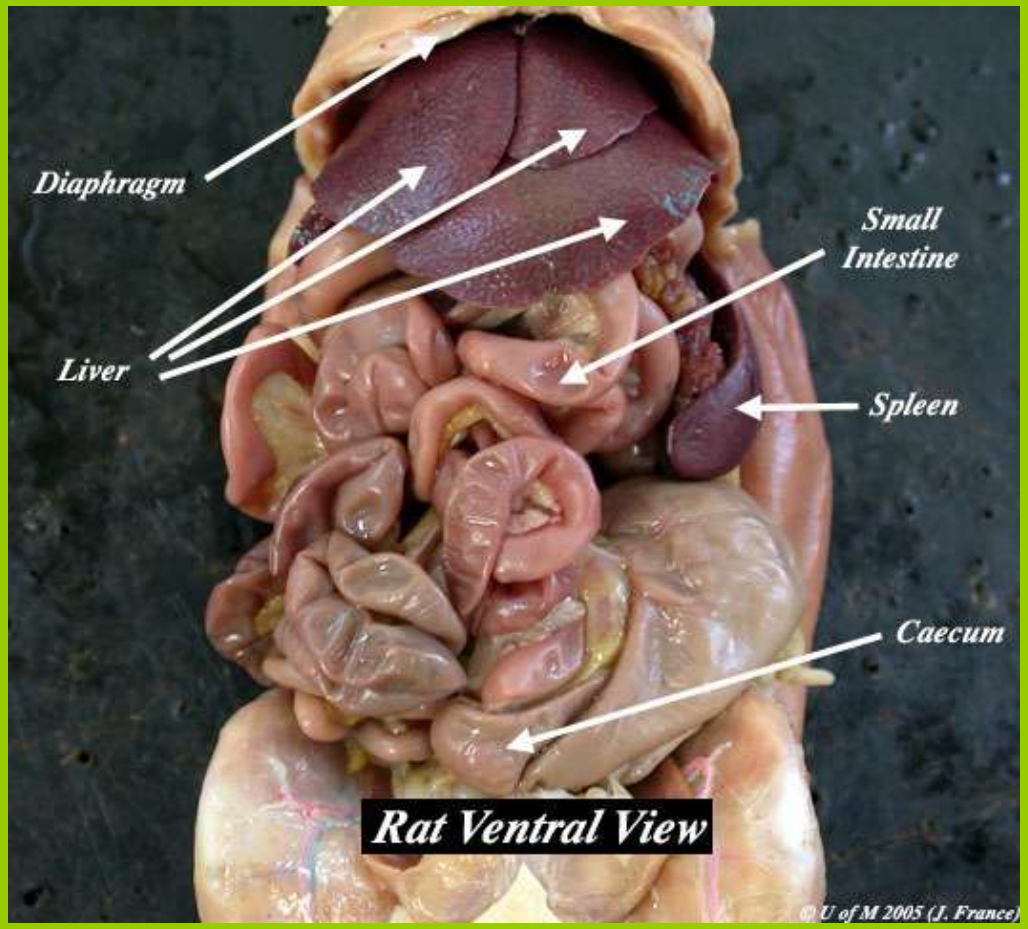


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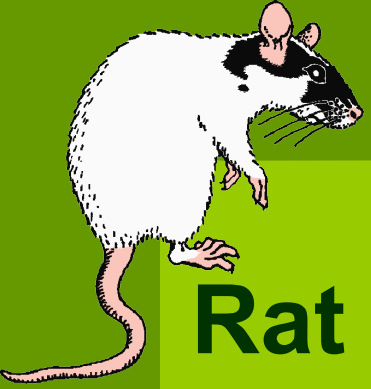

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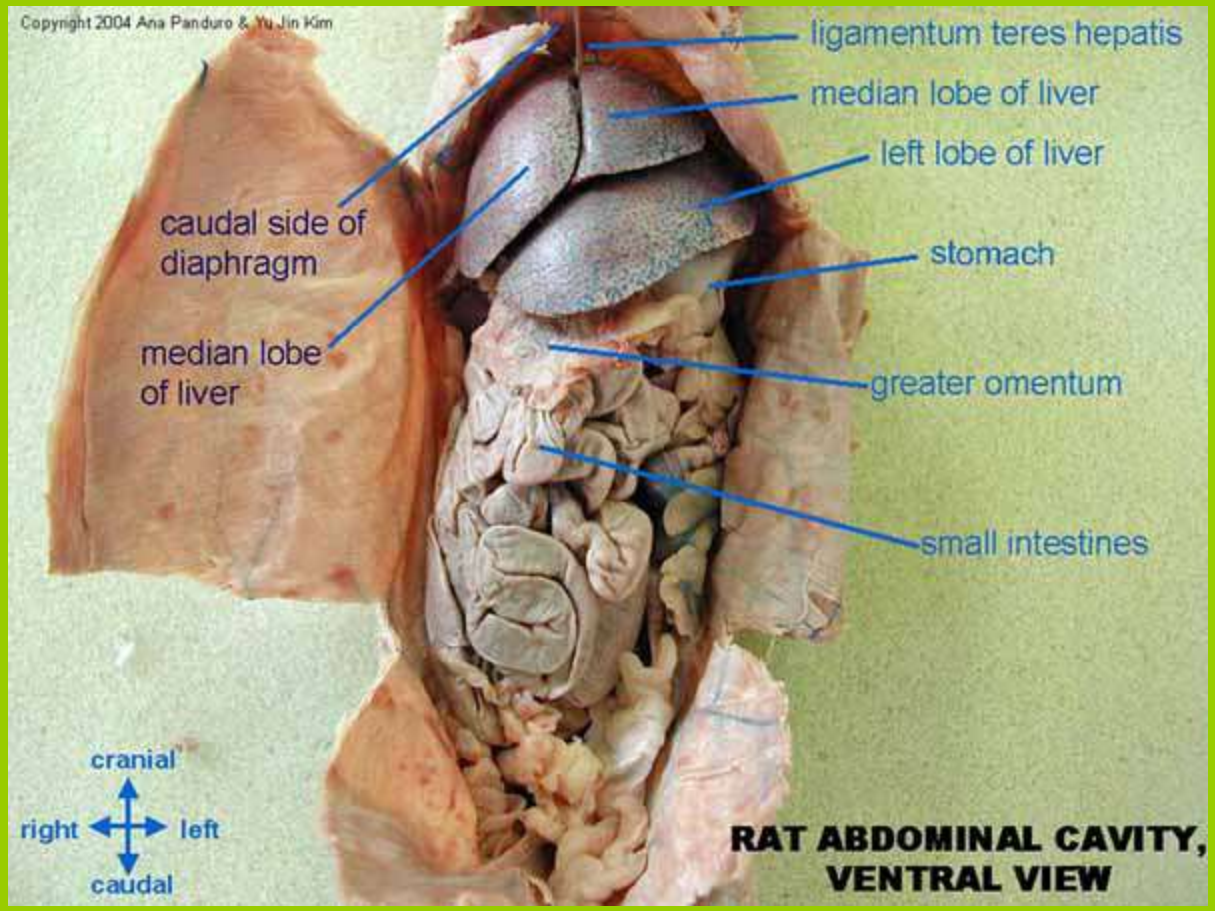


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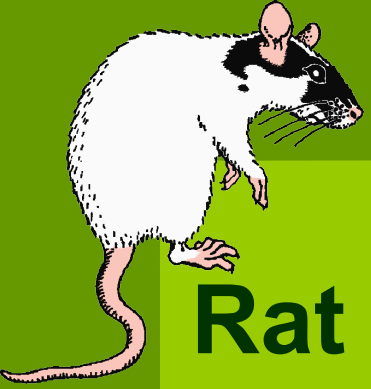

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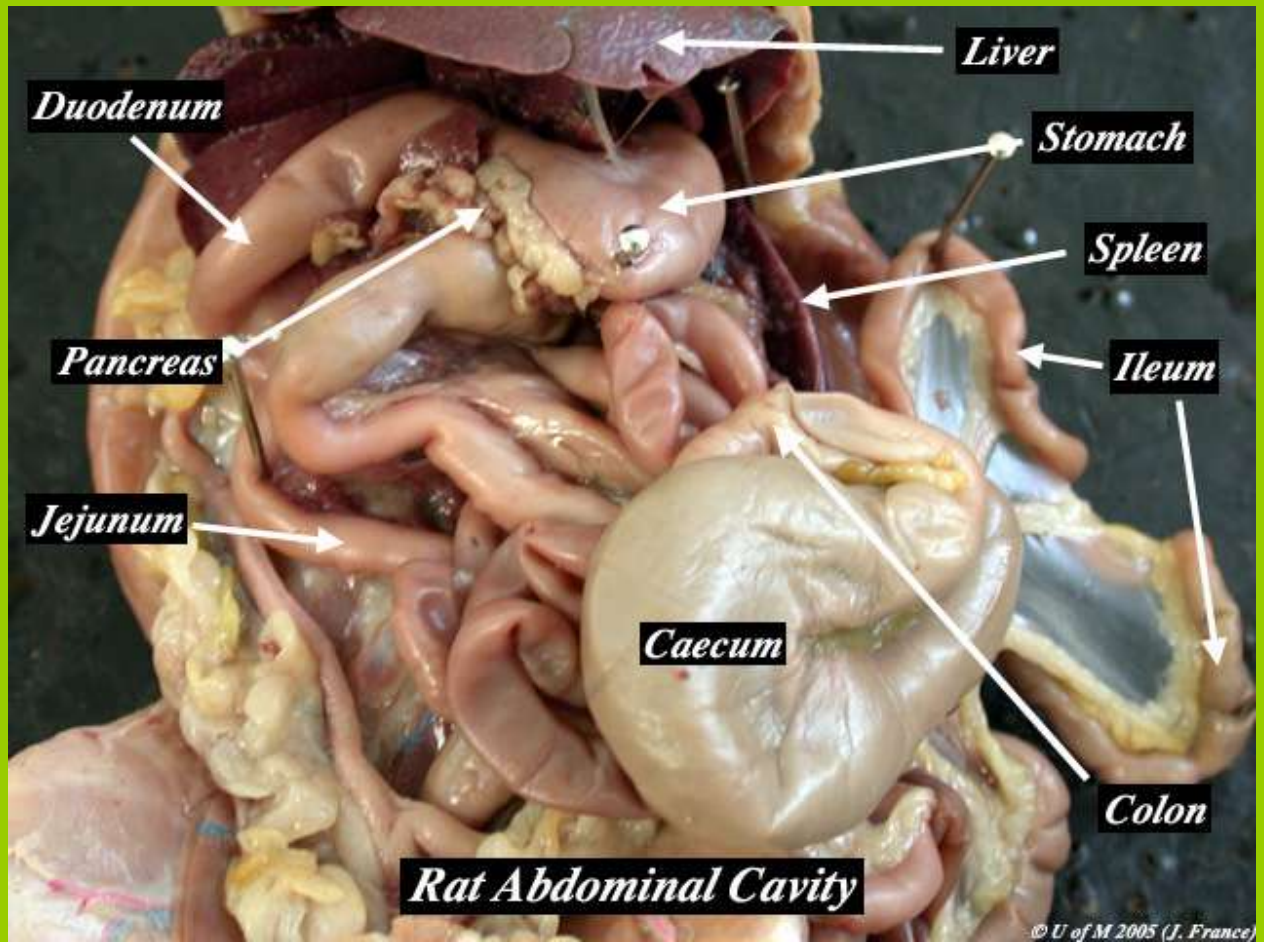


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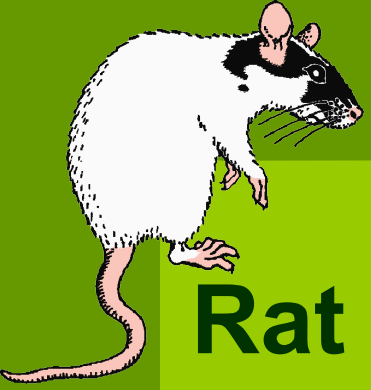

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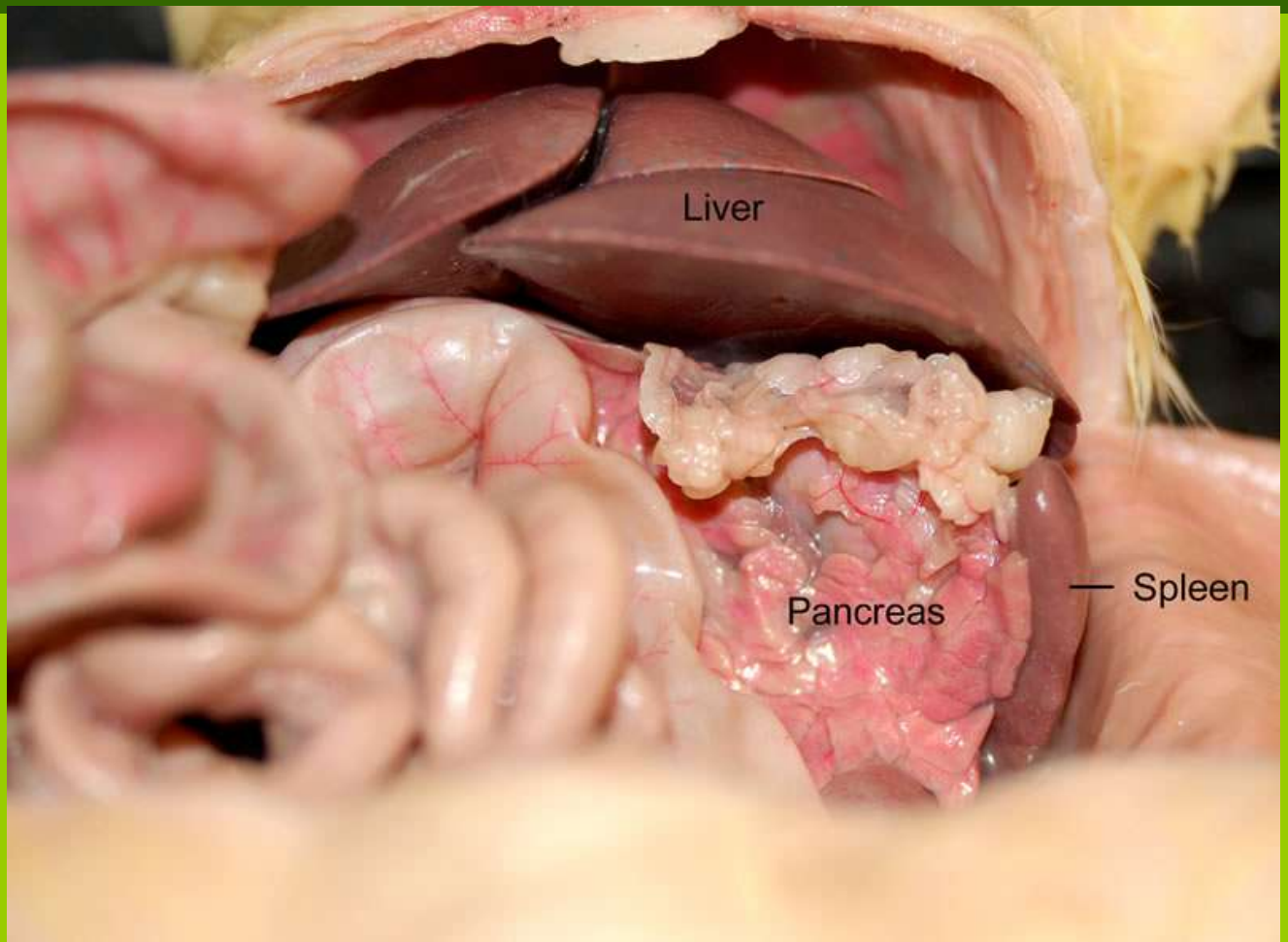


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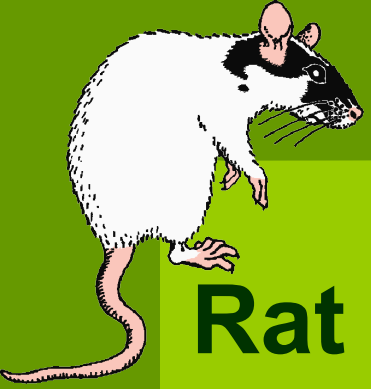
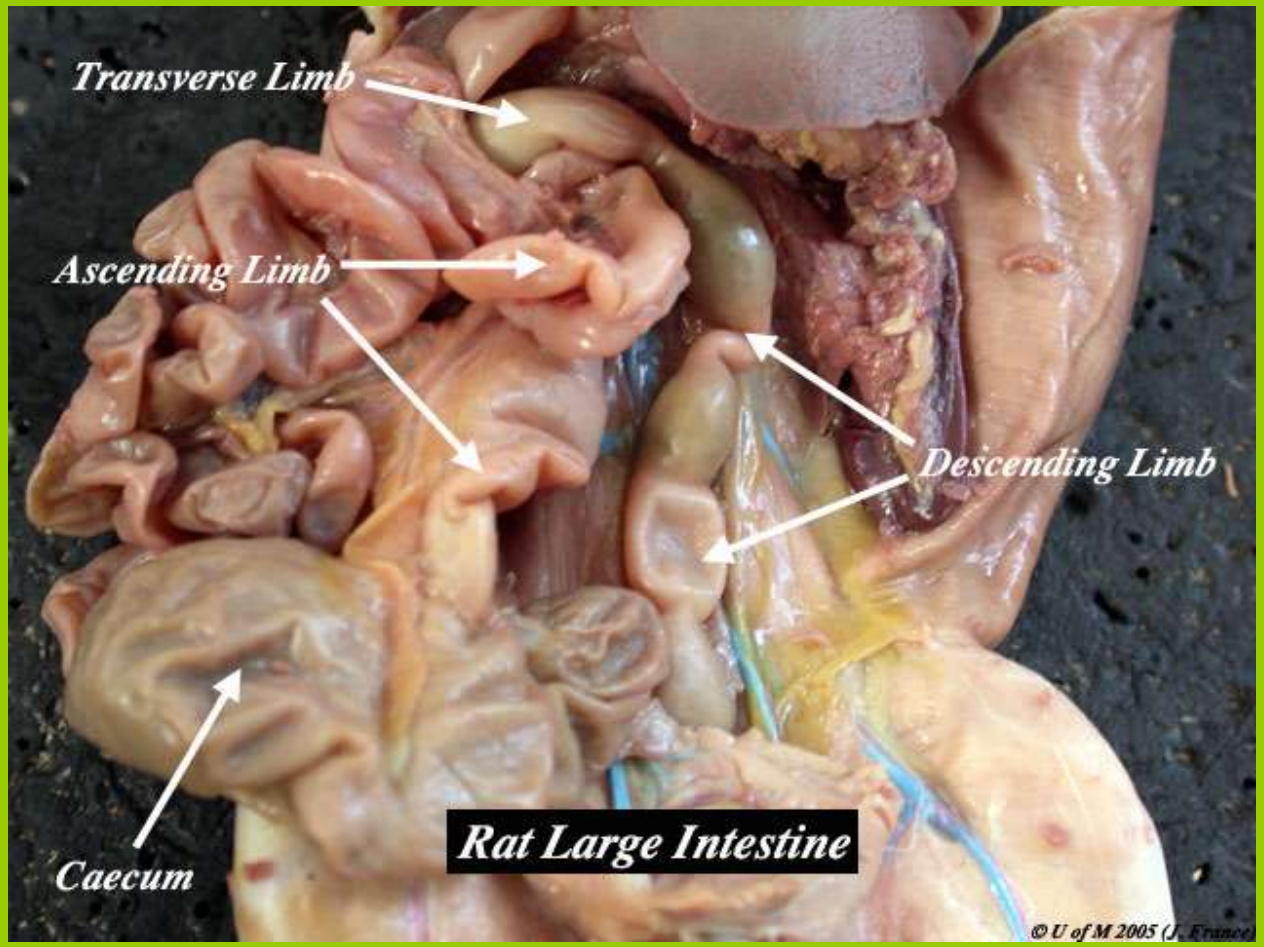


# Rat Dissection

## DIGESTIVE ORGANS

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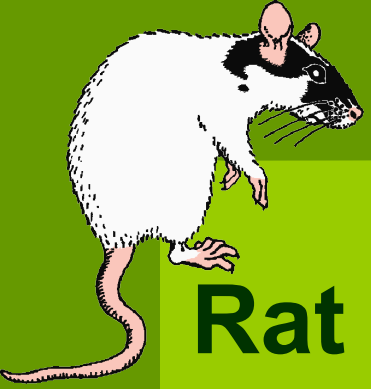
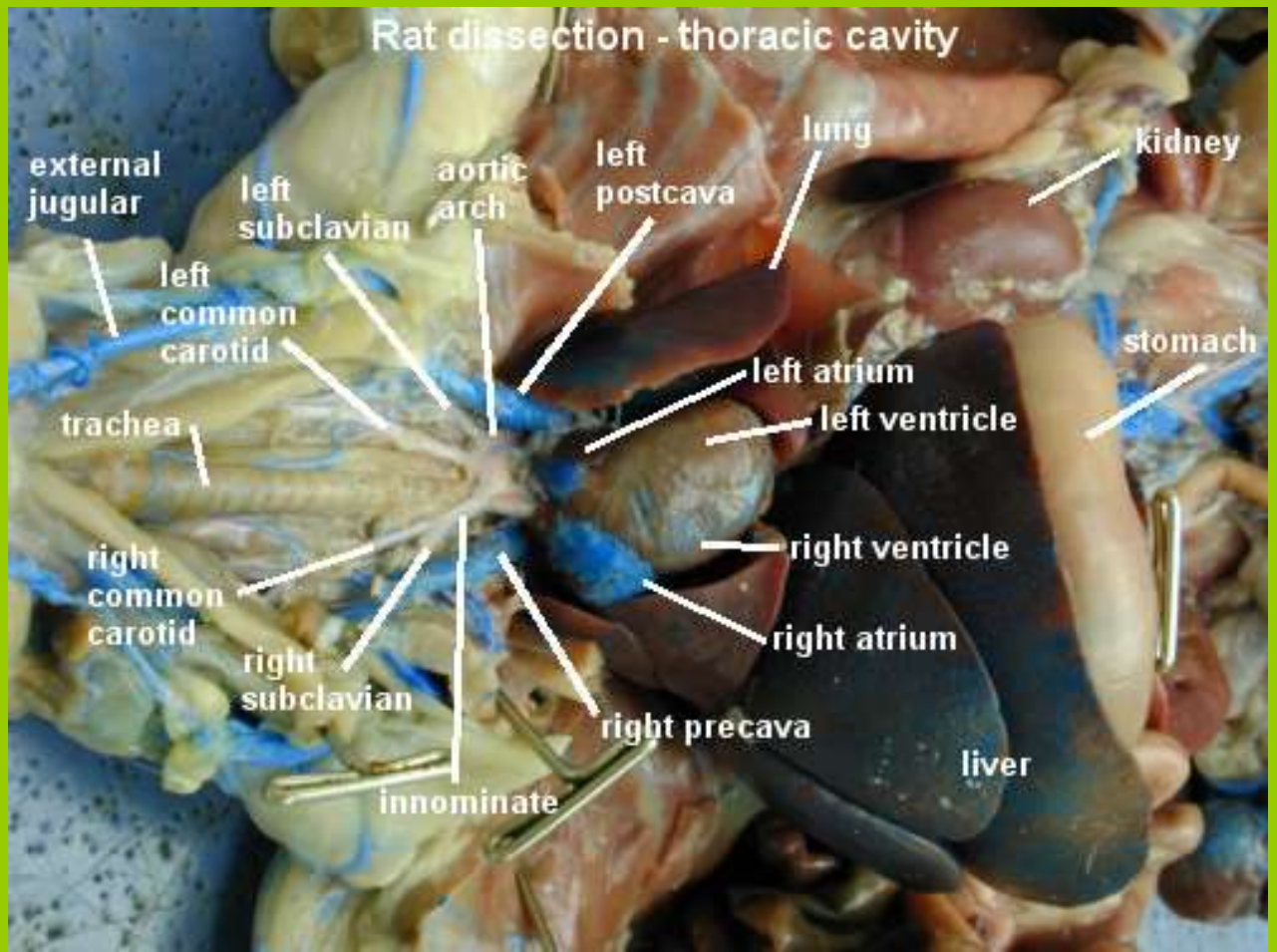


# Rat Dissection

## THORACIC CAVITY

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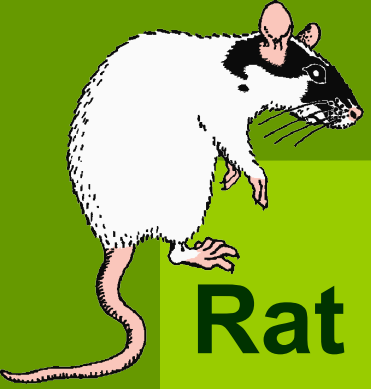
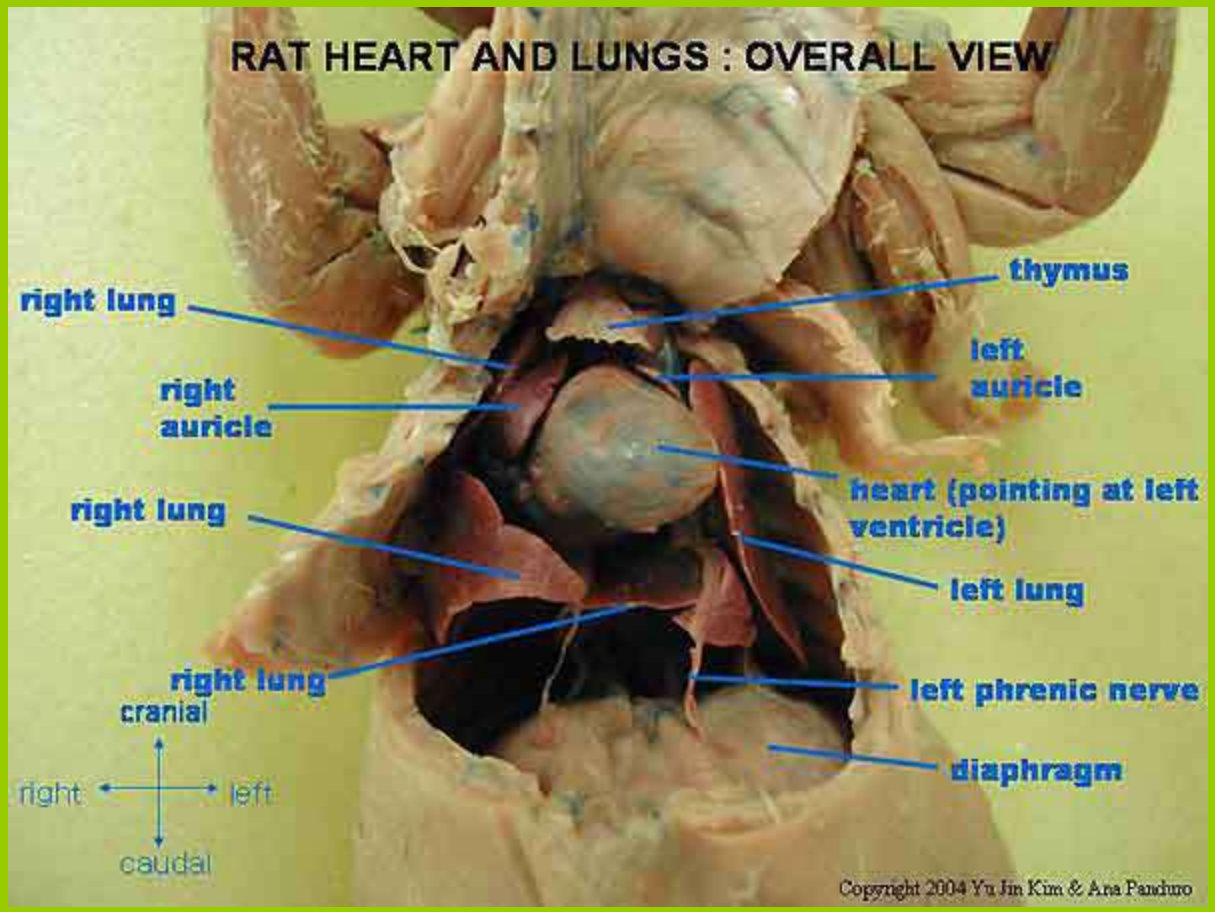


# Rat Dissection

## HEART + LUNGS

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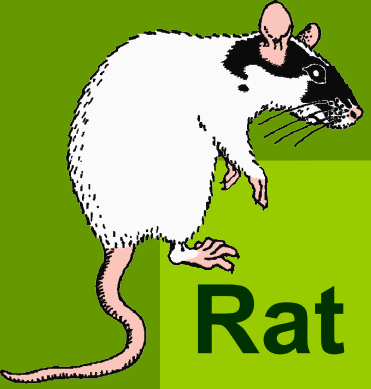
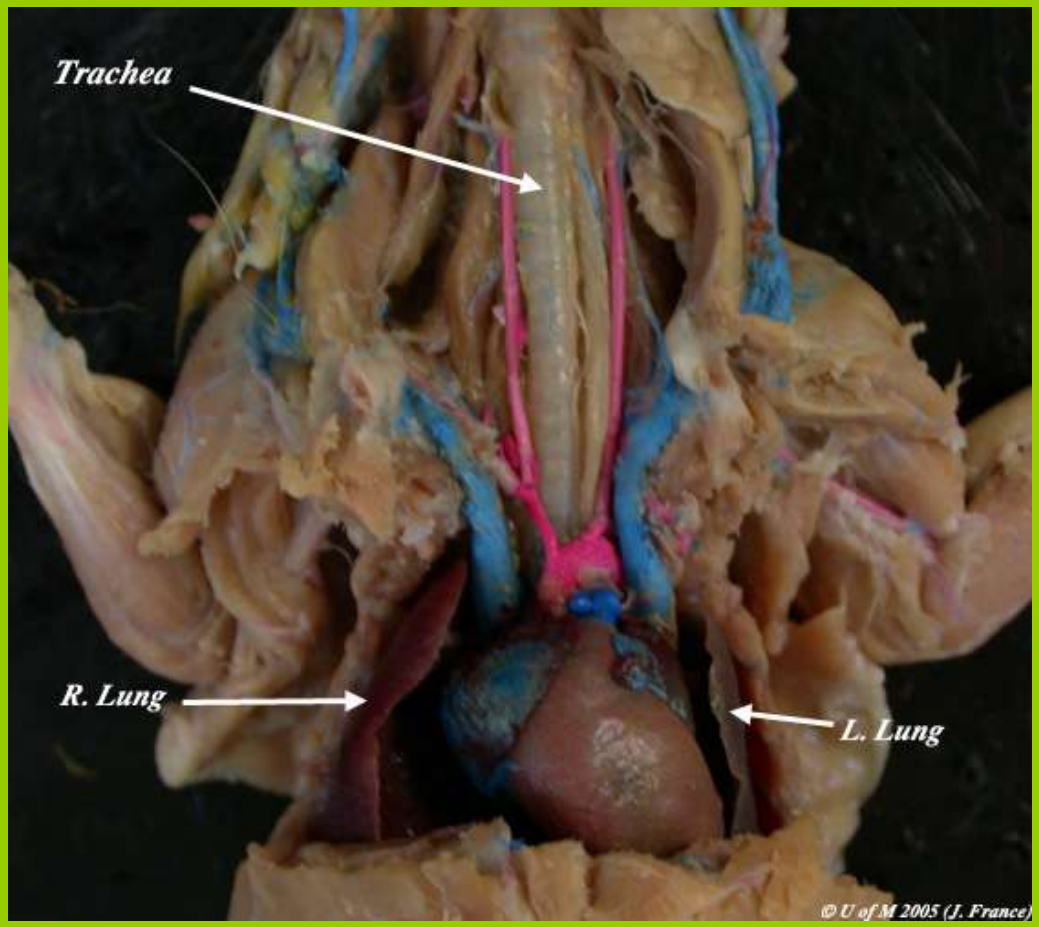


# Rat Dissection

## RESPIRATORY ORGANS

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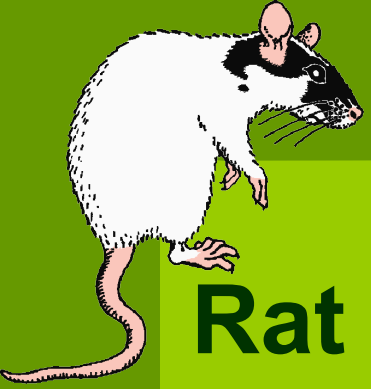
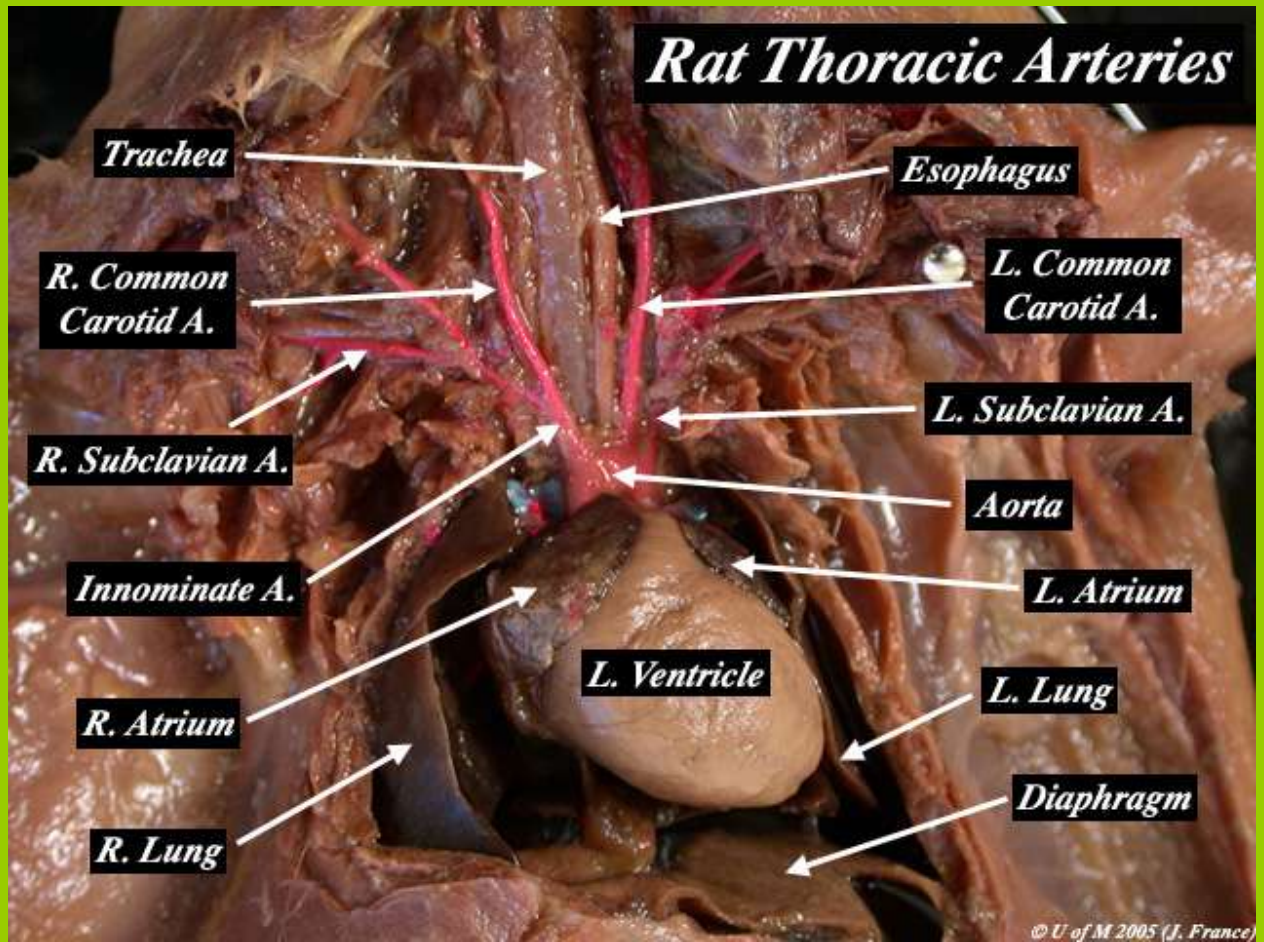


# Rat Dissection

## CIRCULATORY ORGANS

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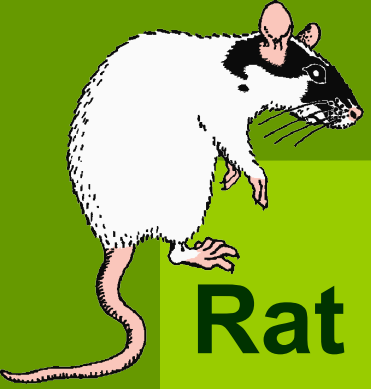
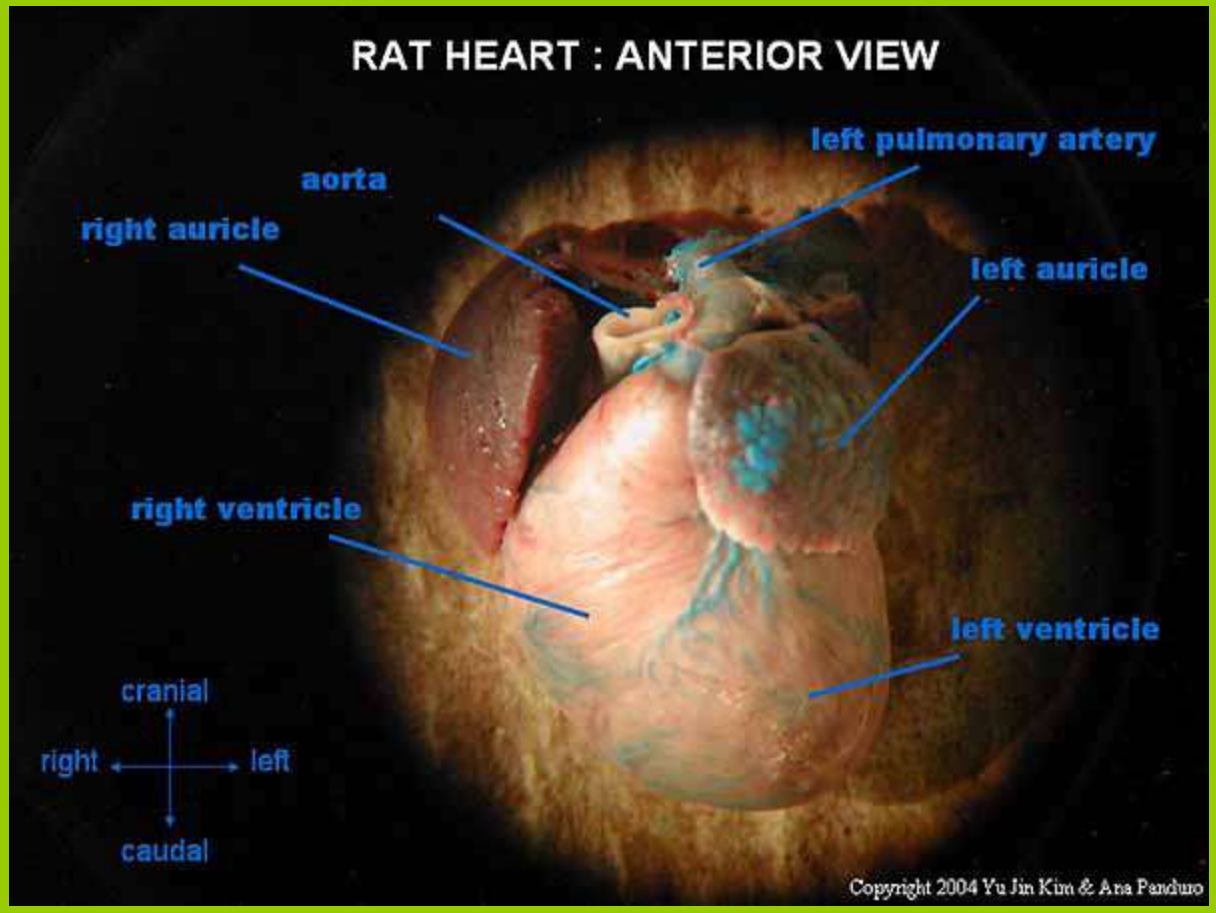


# Rat Dissection

## HEART

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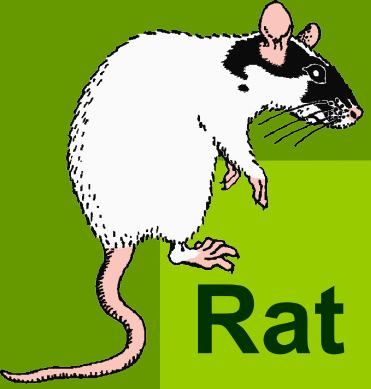
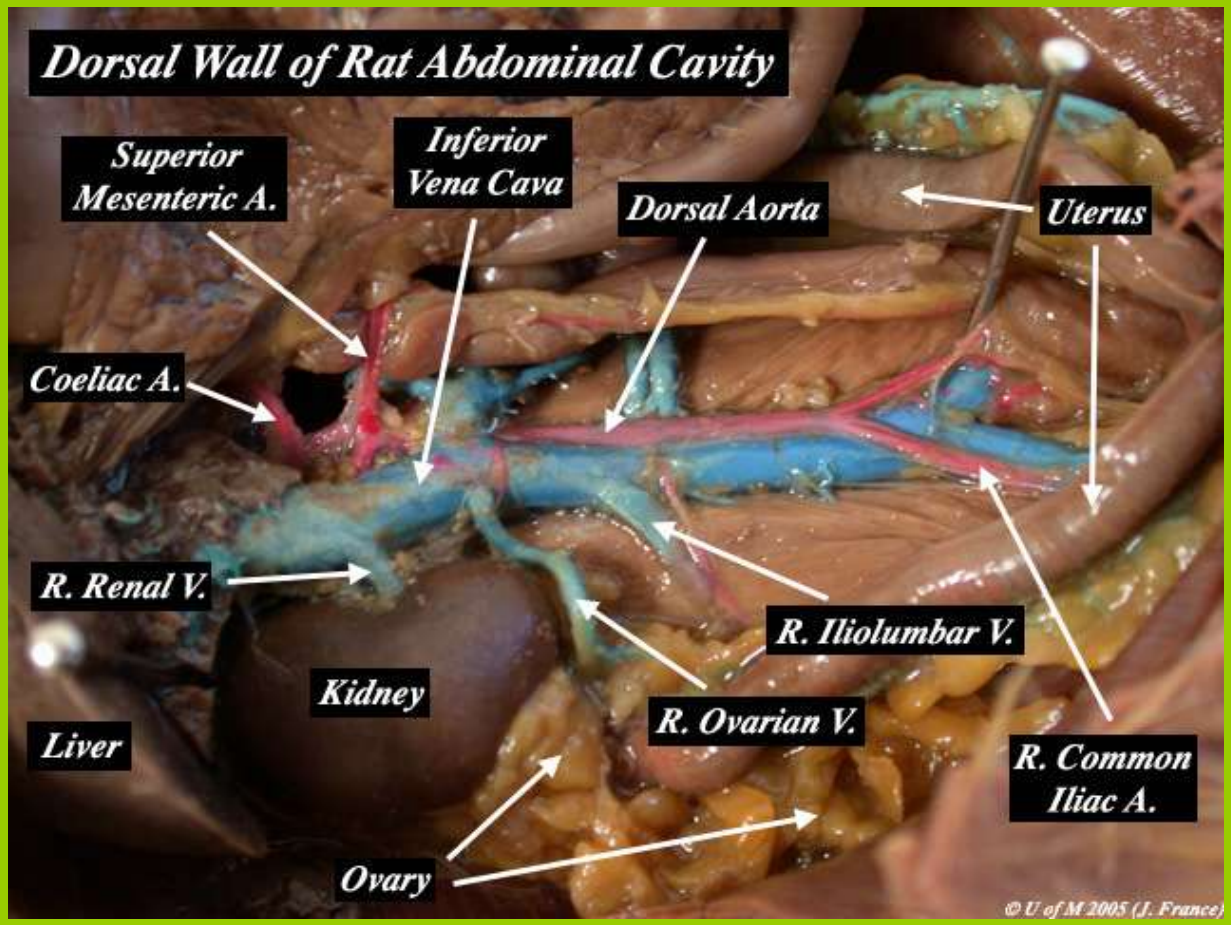


# Rat Dissection

## CIRCULATORY ORGANS

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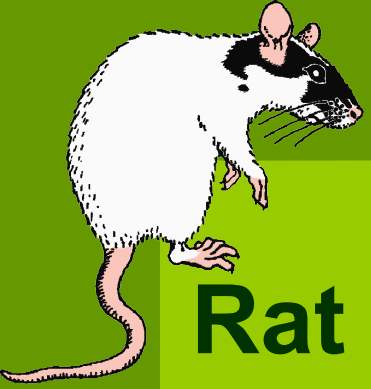
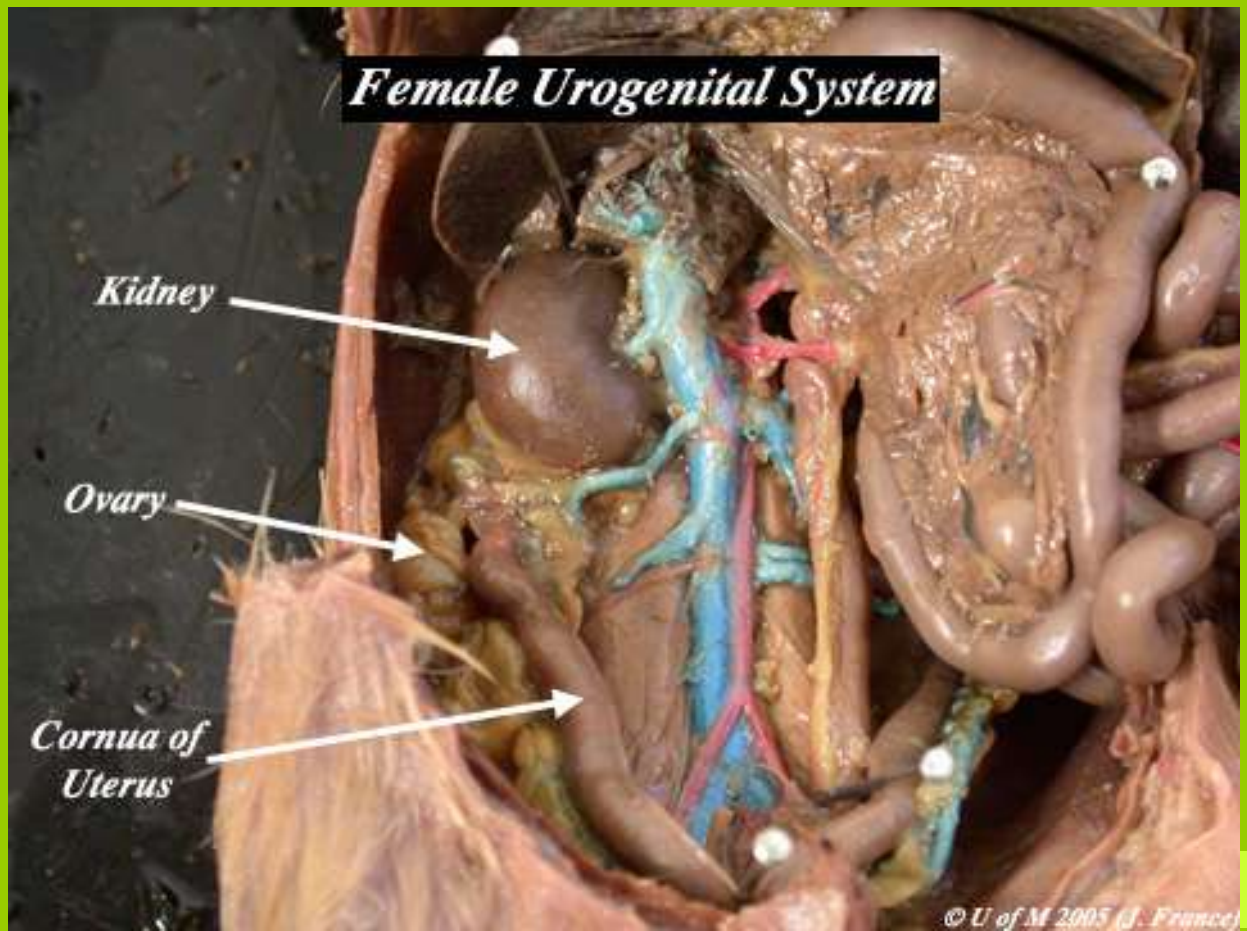


# Rat Dissection

## UROGENITAL ORGANS

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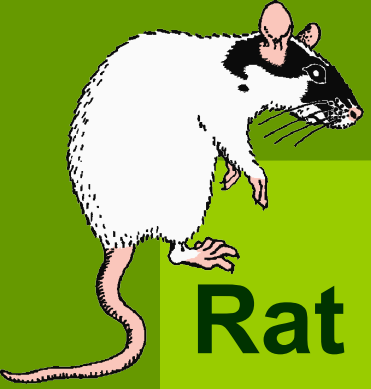
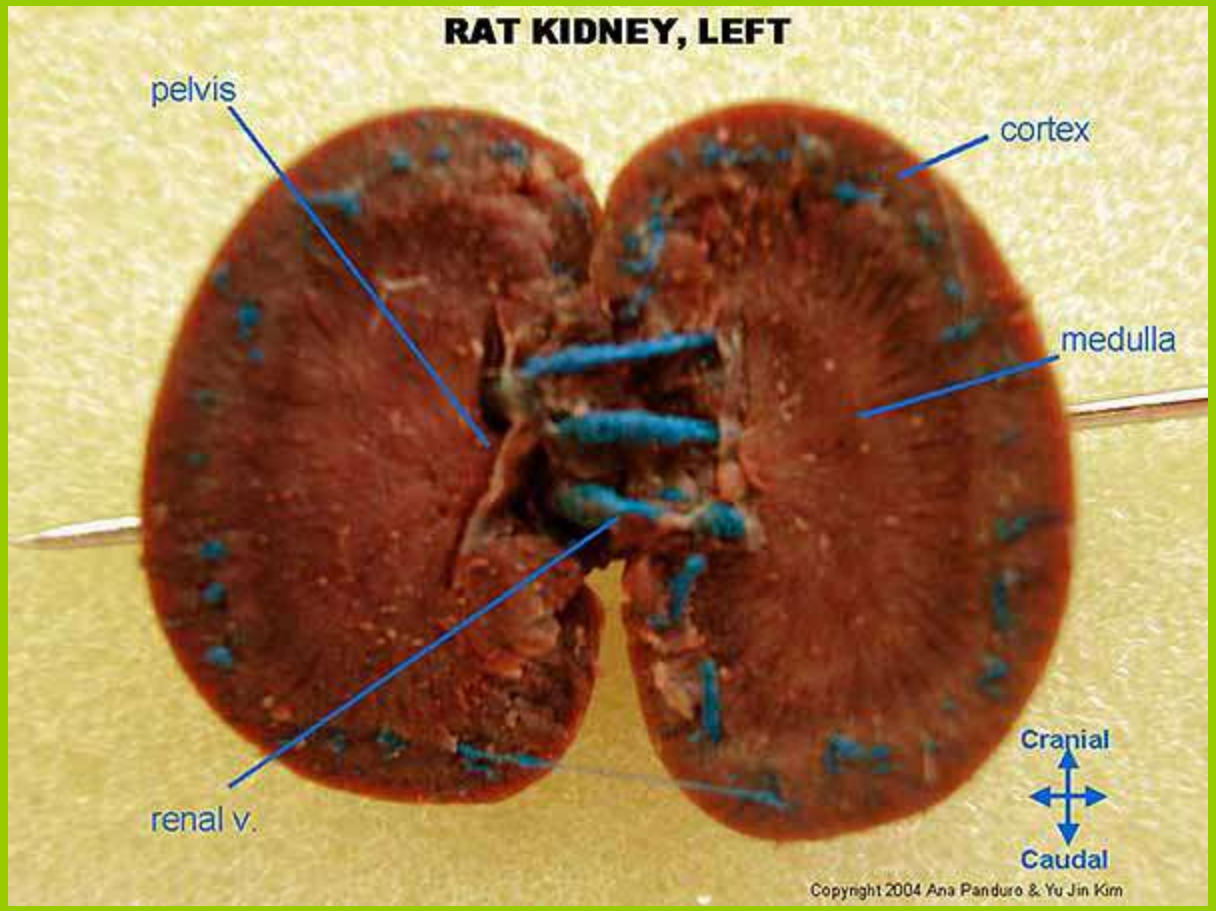


# Rat Dissection

## EXCRETORY ORGANS

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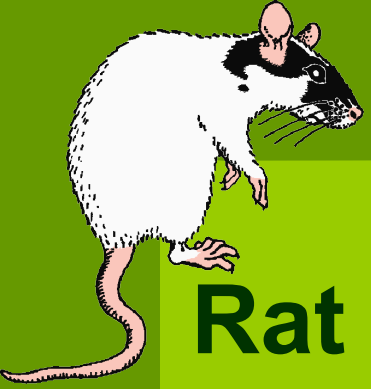
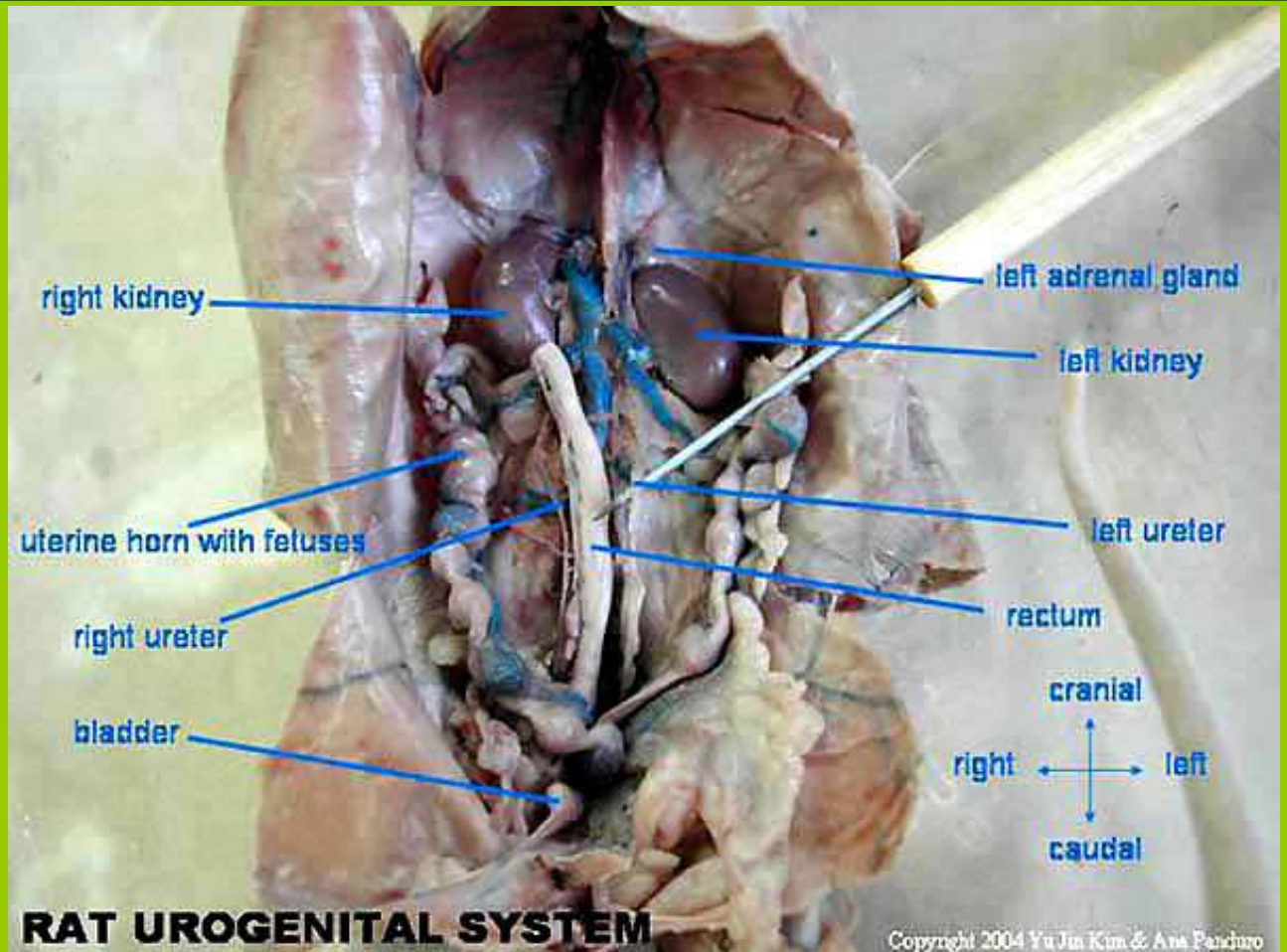


# Rat Dissection

## UROGENITAL ORGANS

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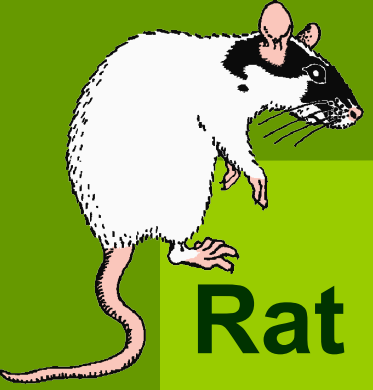
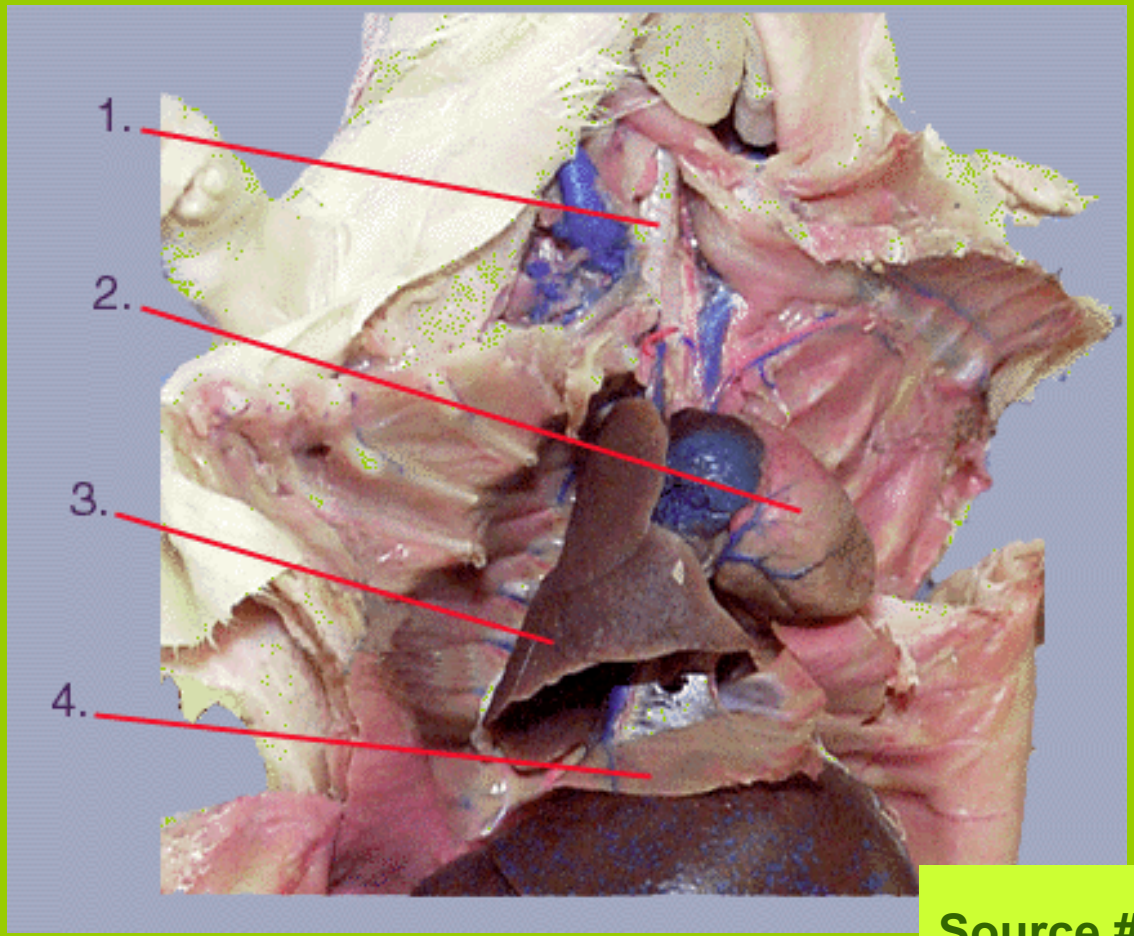


Review and Quiz Yourself

# Rat Dissection

## THORACIC CAVI

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

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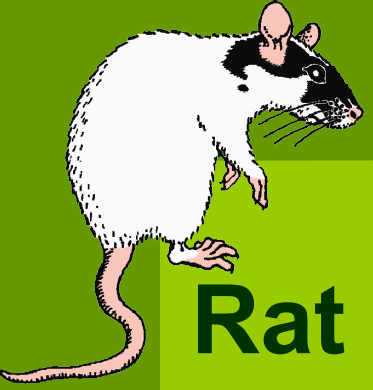
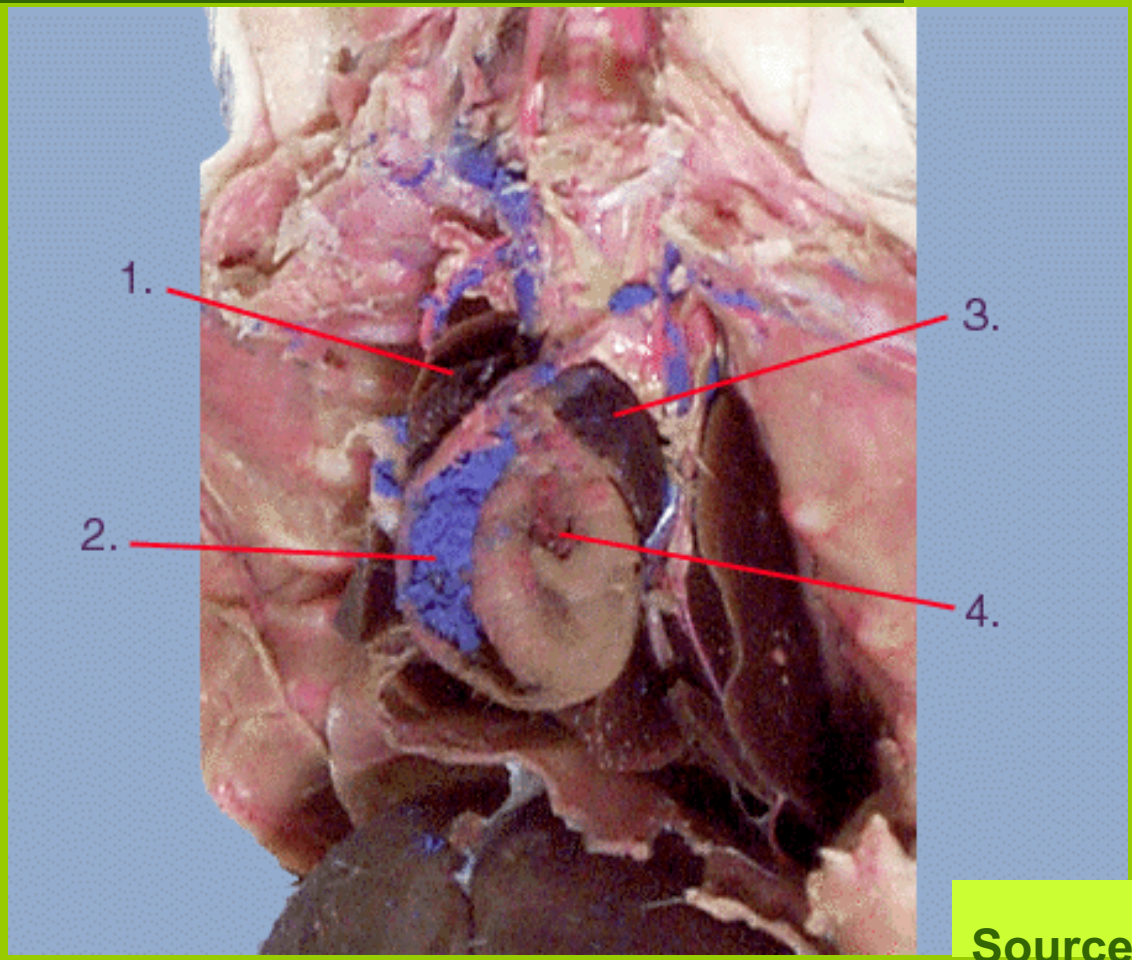


Review and Quiz Yourself

# Rat Dissection

## HEART

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

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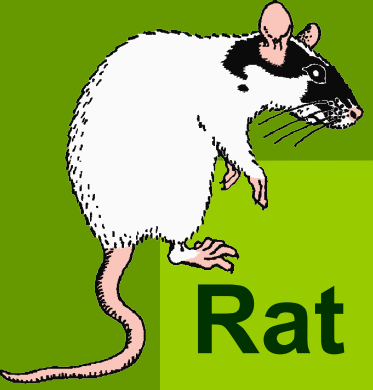
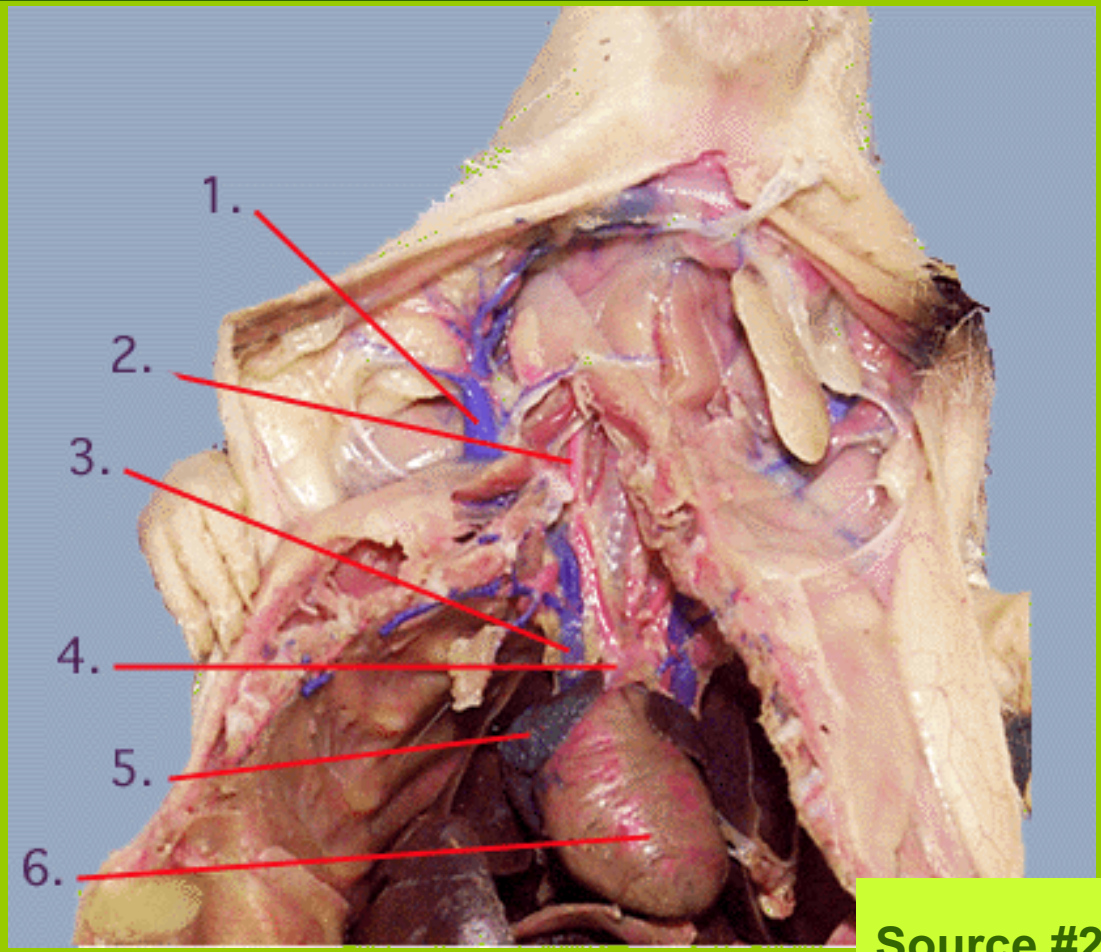


Review and Quiz Yourself

# Rat Dissection

## THORACIC CIRCULATION

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

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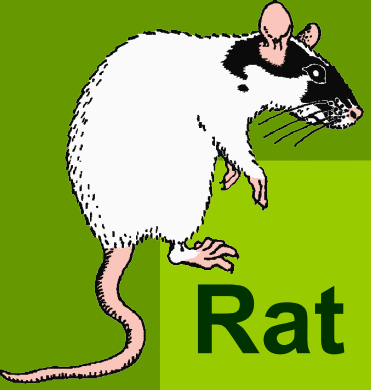
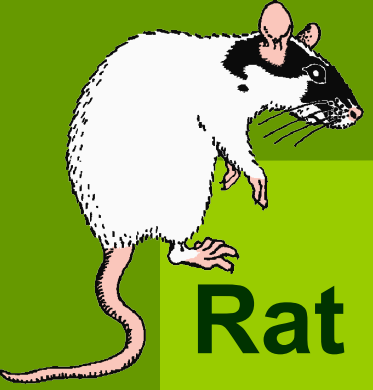


# Rat Dissection

## 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

Source #1

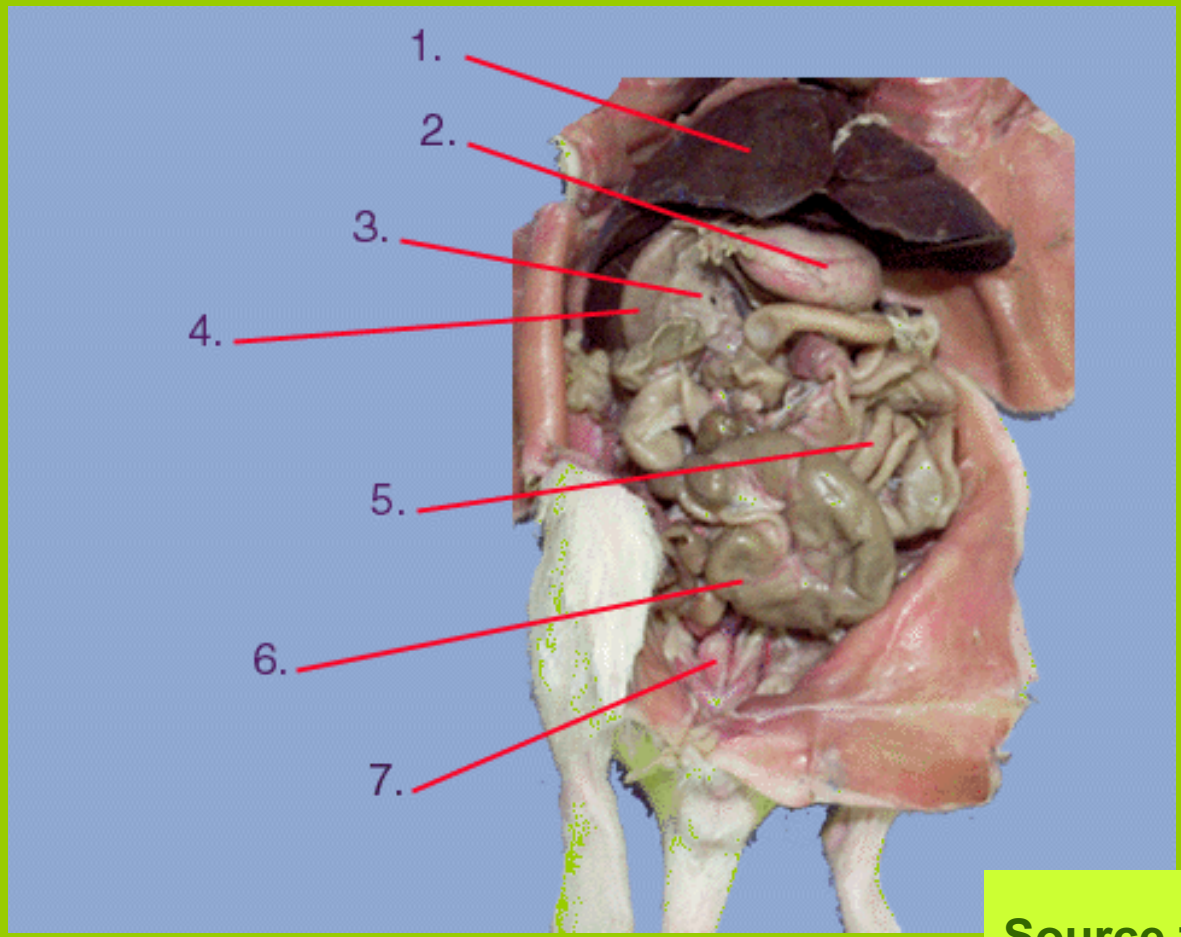


Review and Quiz Yourself

# Rat Dissection

## ABDOMINAL CAVITY

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

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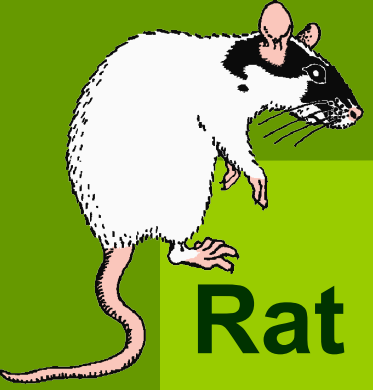
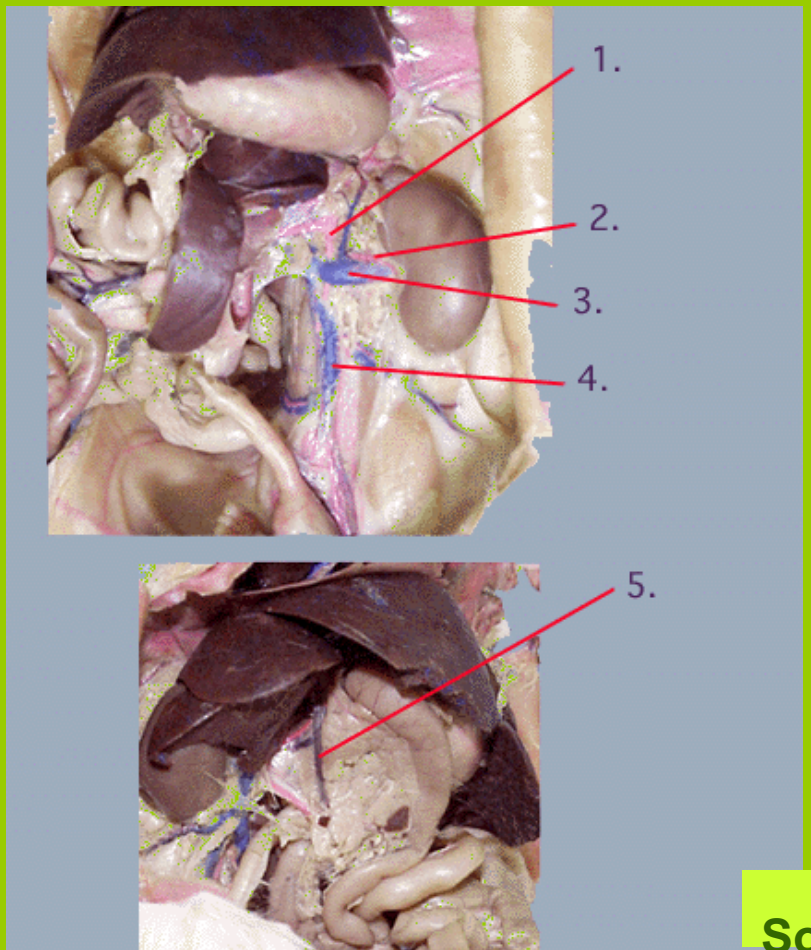


Review and Quiz Yourself

# Rat Dissection

## ABDOMINAL CIRCULATION

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

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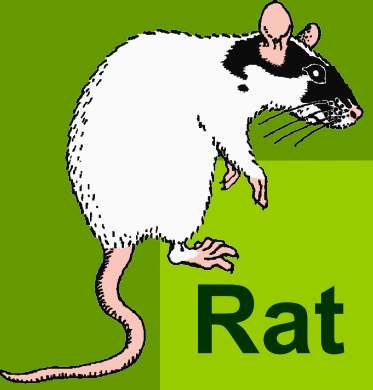
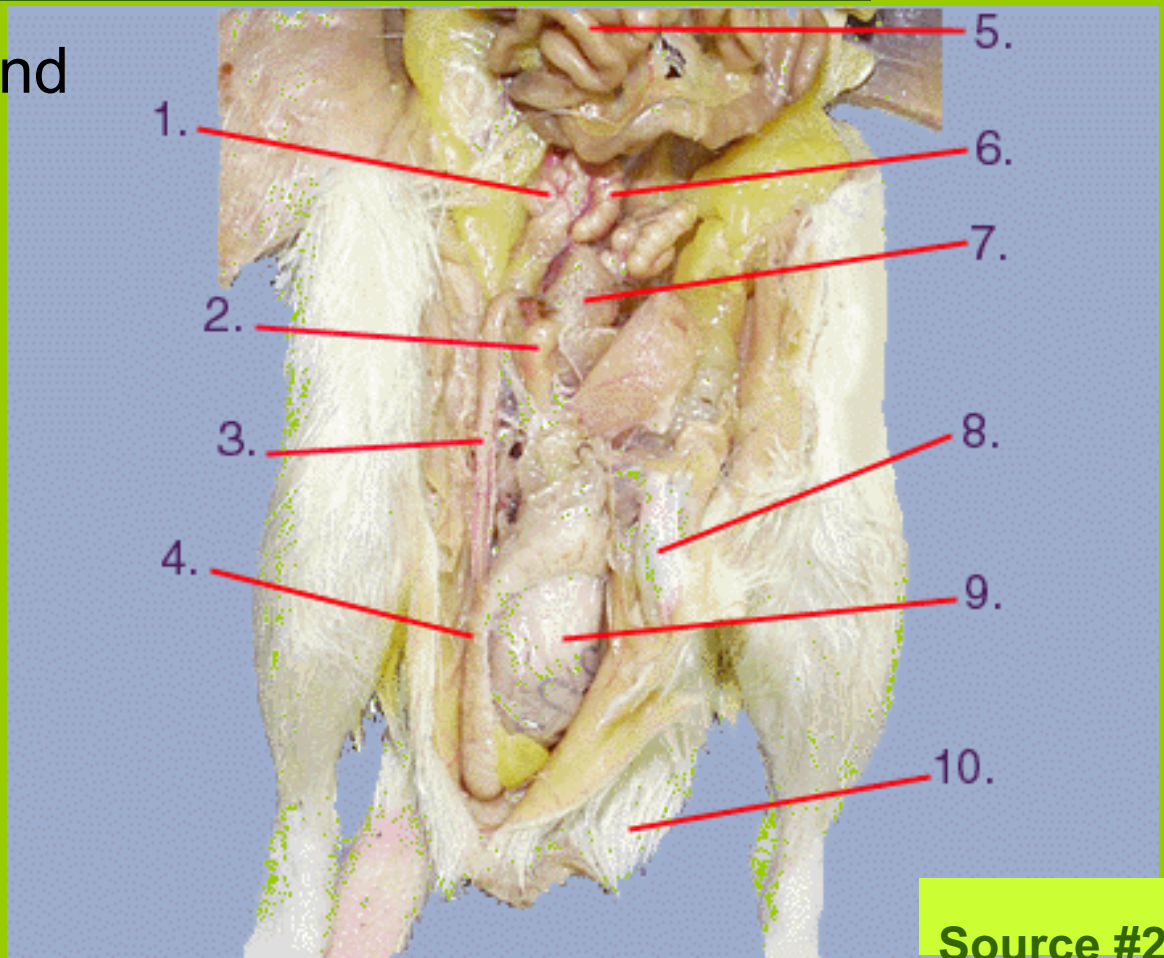


Review and Quiz Yourself

# 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

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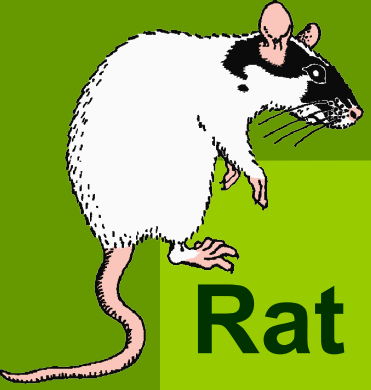
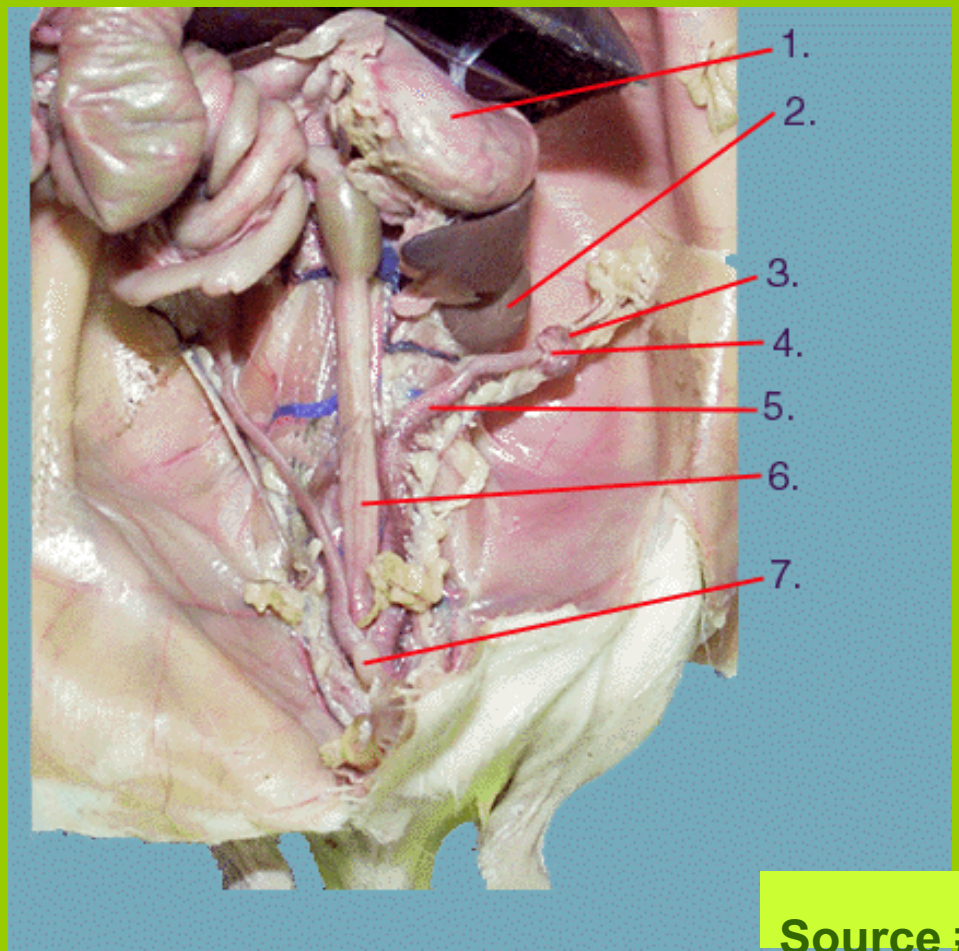


Review and Quiz Yourself

# Rat Dissection

## FEMALE REPRODUCTIVE ORGANS

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

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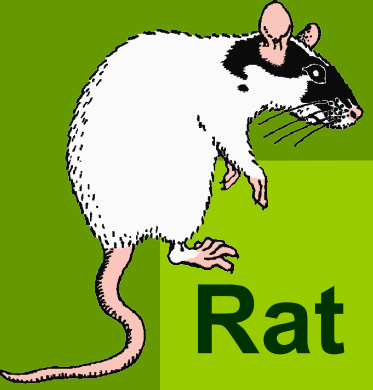
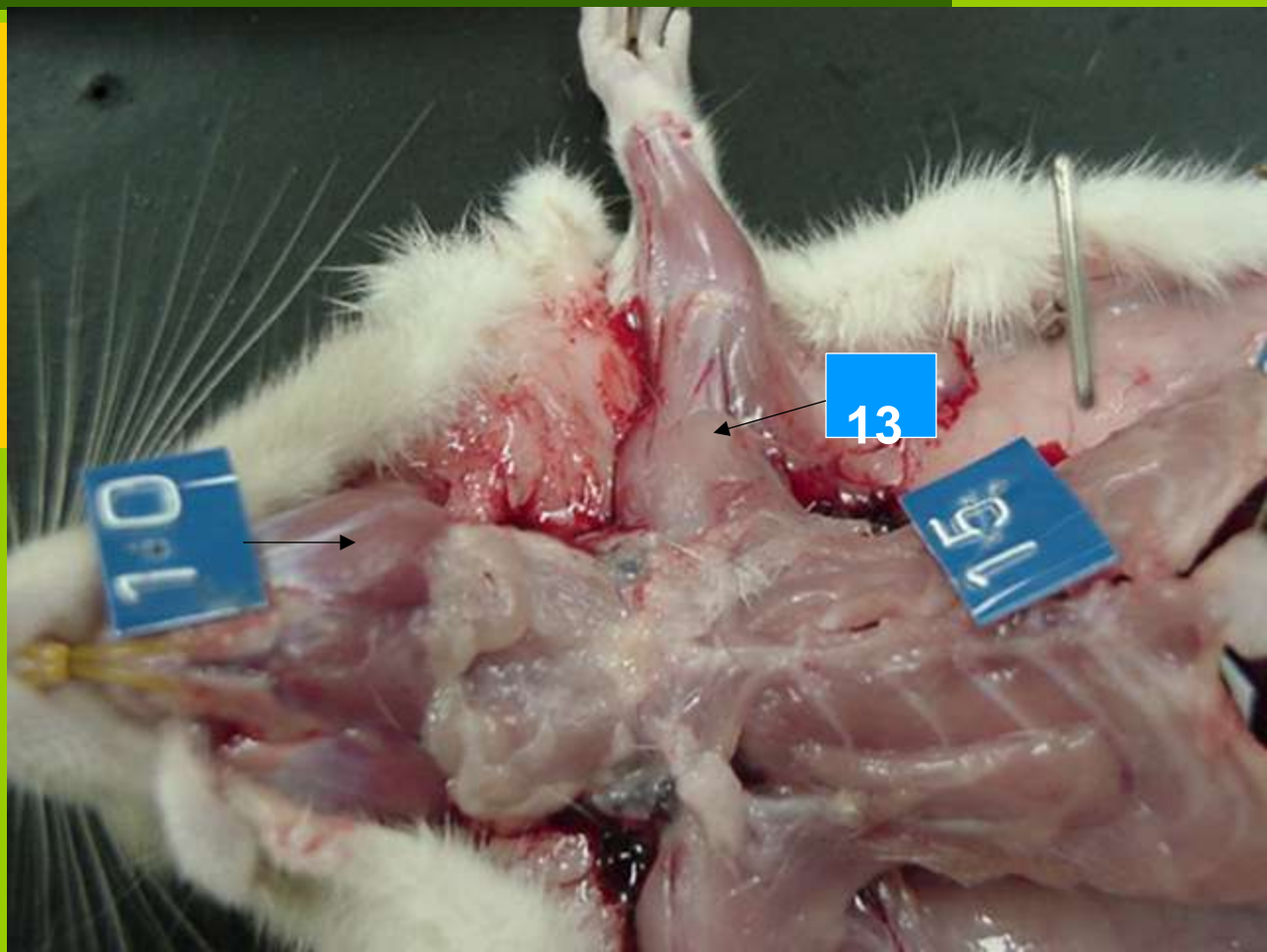


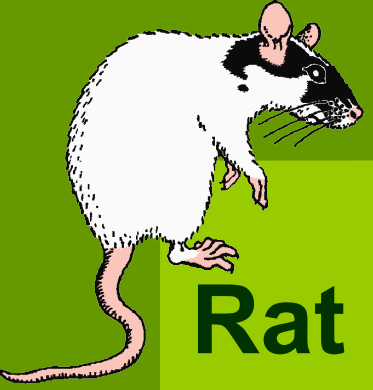
Review and Quiz Yourself

# Rat Dissection

## TAGGED ORGANS

10. Masseter
13. Biceps Brachii
15. Rib Cage



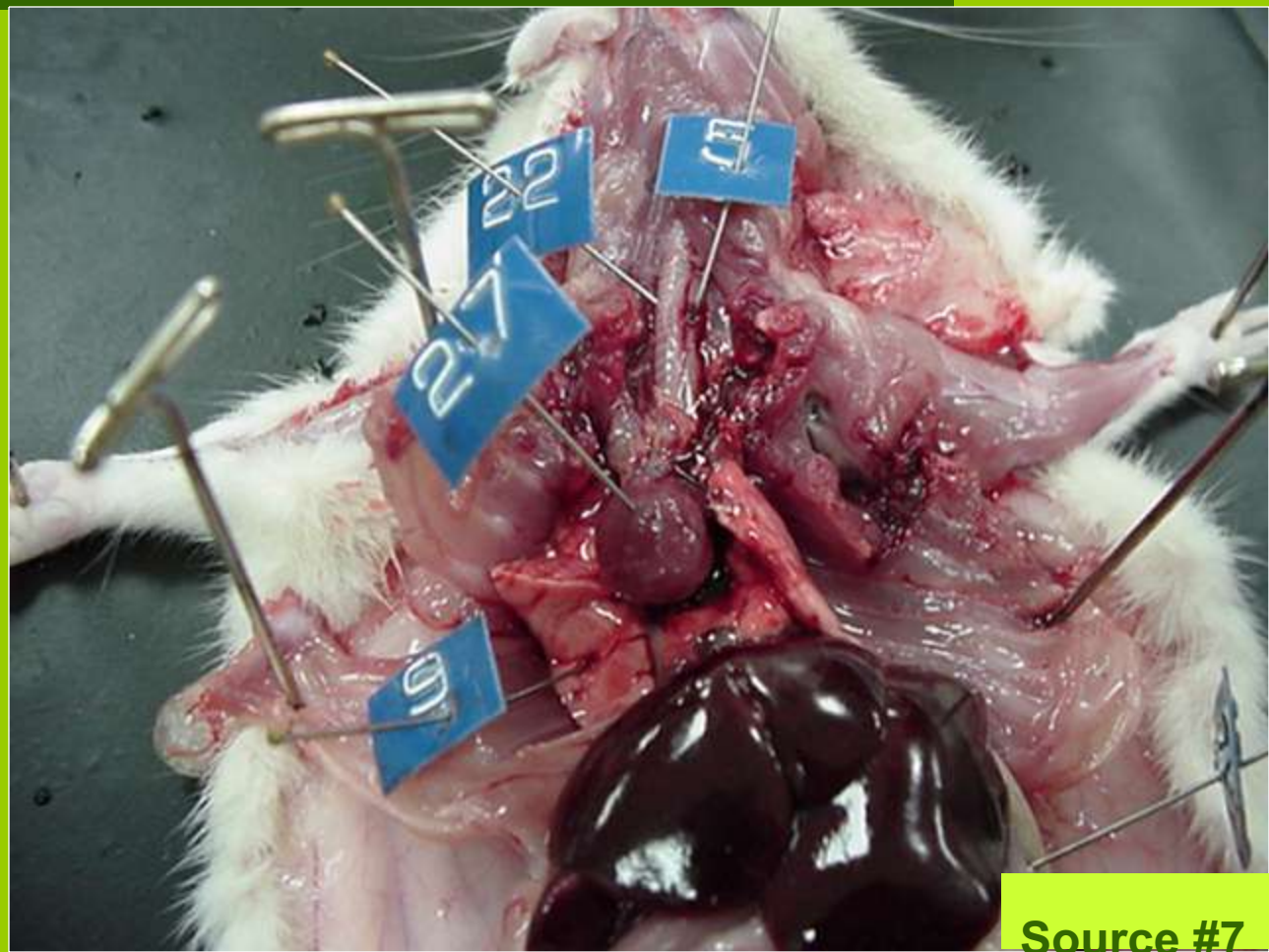


Review and Quiz Yourself

# Rat Dissection

## TAGGED ORGANS

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

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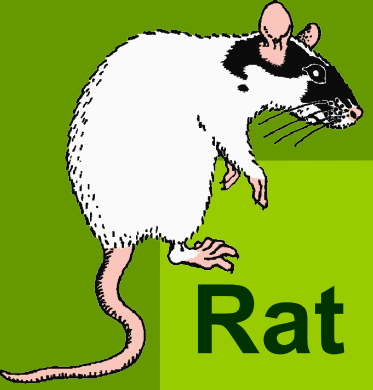
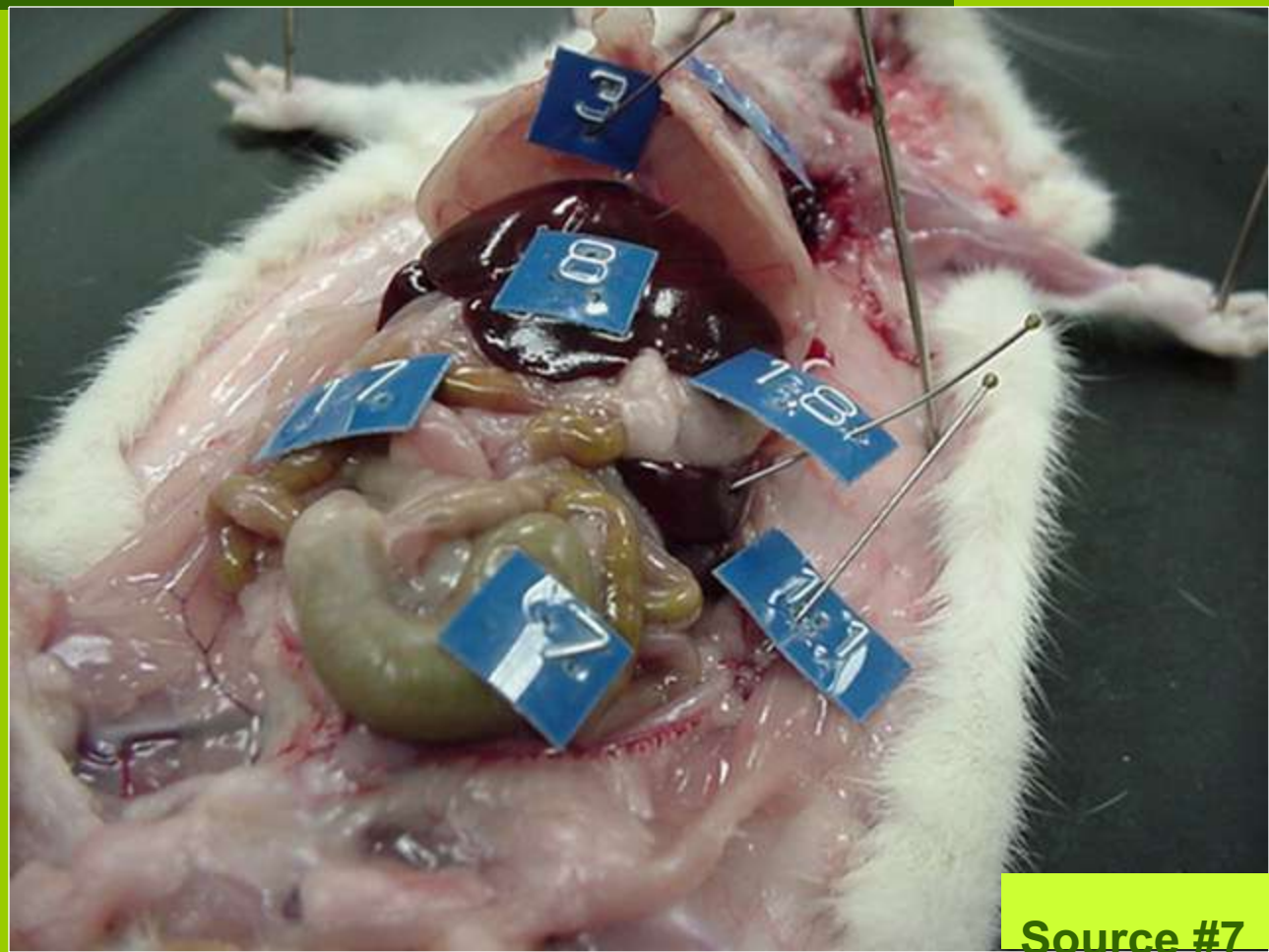


Review and Quiz Yourself

# Rat Dissection

## TAGGED ORGANS

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

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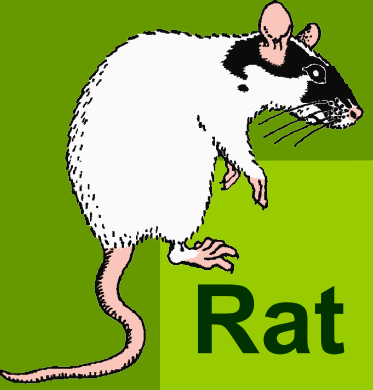
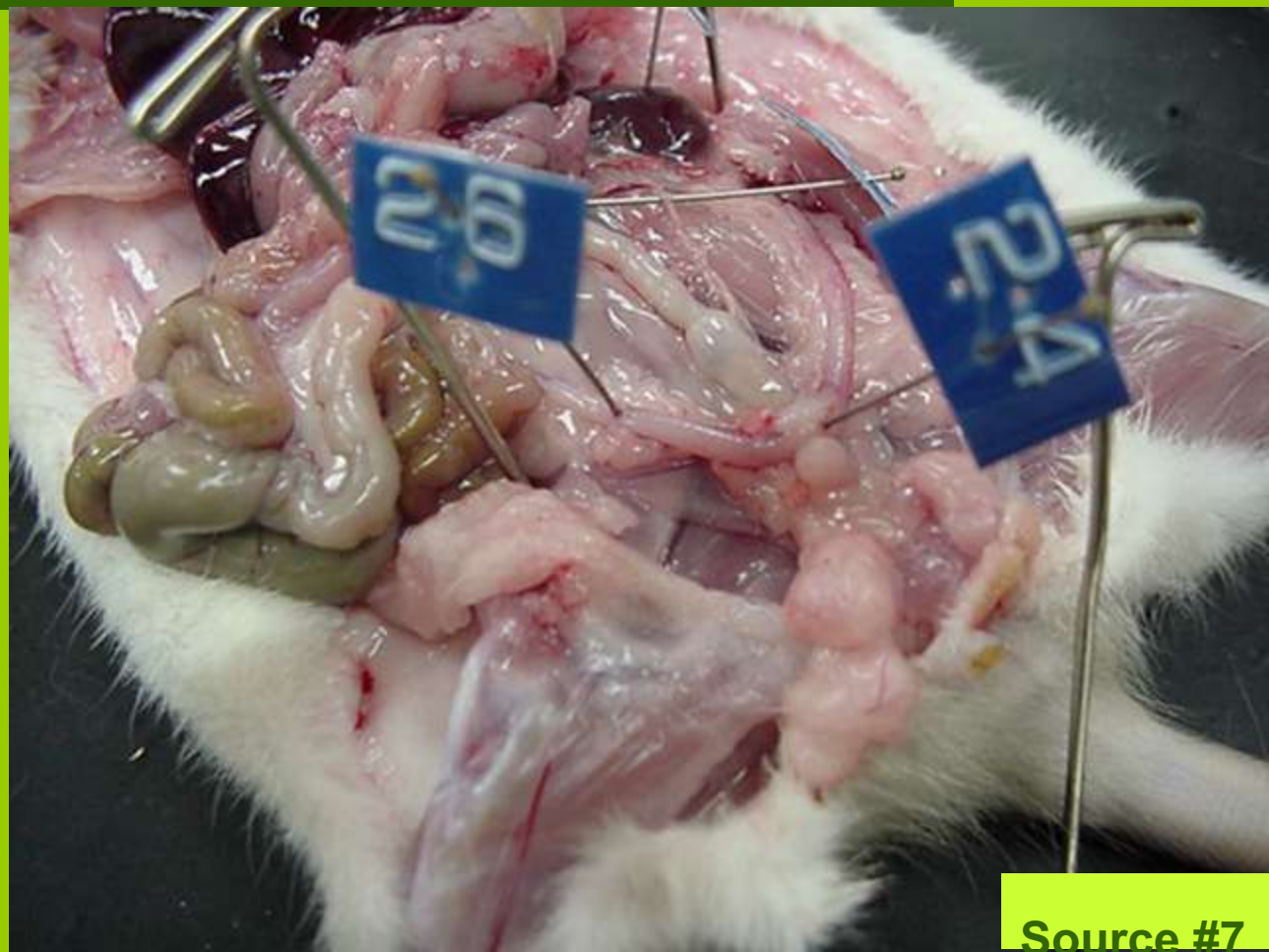


Review and Quiz Yourself

# Rat Dissection

## TAGGED ORGANS

24. Urinary Bladder
26. Uterine Horn

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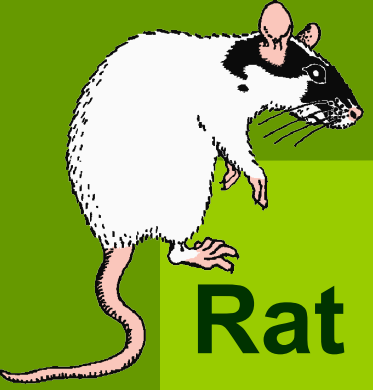
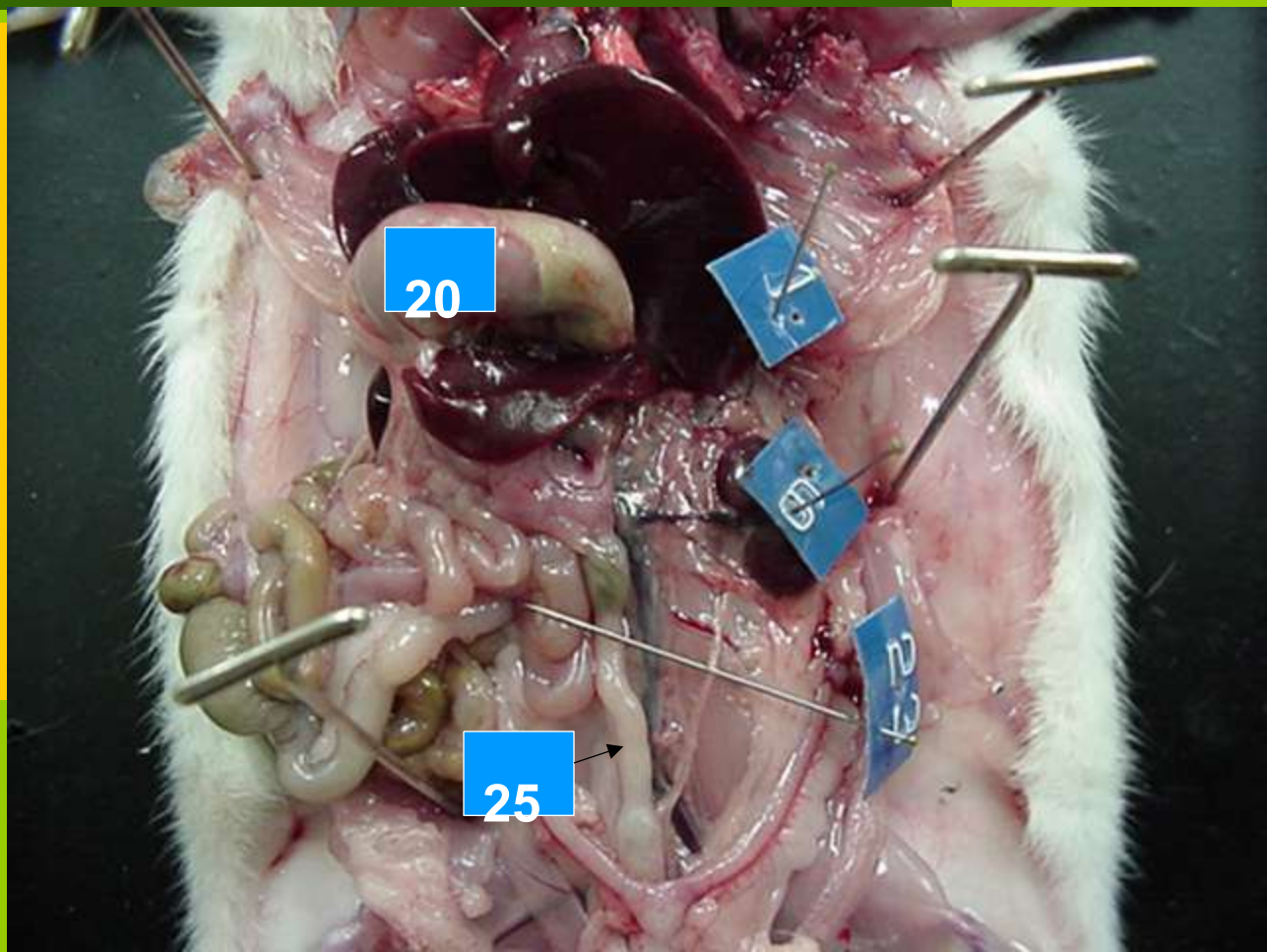


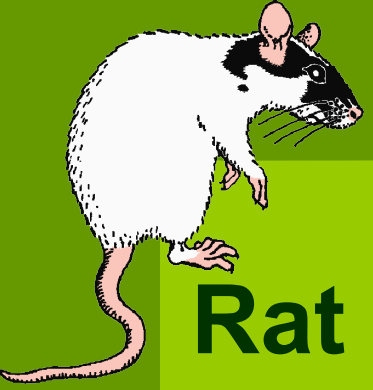
Review and Quiz Yourself

# Rat Dissection

## TAGGED ORGANS

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





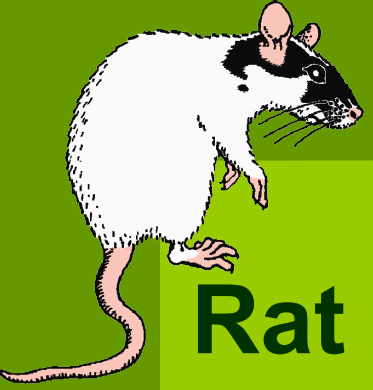


# Rat Dissection

## ANATOMICAL TERMS

## NAME THAT FUNCTION:

1. Toward the midline **Medial**
2. Toward the back (upper surface of body) **Dorsal**
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**



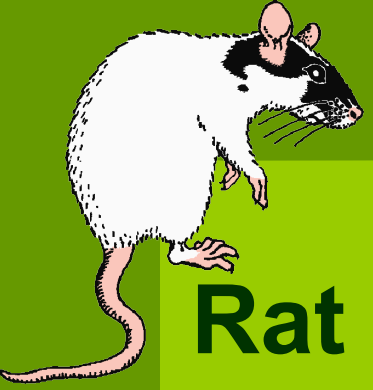
Review and Quiz Yourself

# 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**



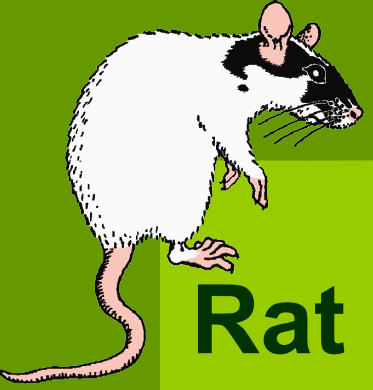


# Rat Dissection

## 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 — **Pinna**
3. Paired openings leading into the nose — **Nares**
4. Organs of the thoracic and abdominal cavities — **Viscera**
5. A partition or wall separating 2 cavities — **Septum**
6. A membrane which suspends the organs — **Mesentery**
7. Shiny membrane that lines the abdominal cavity — **Peritoneum**





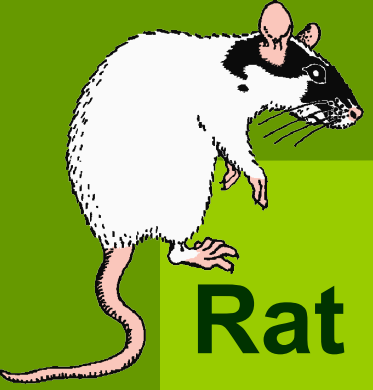
# Rat Dissection

## ORGAN FUNCTION

## NAME THAT MUSCLE:

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

Gluteus Maximus



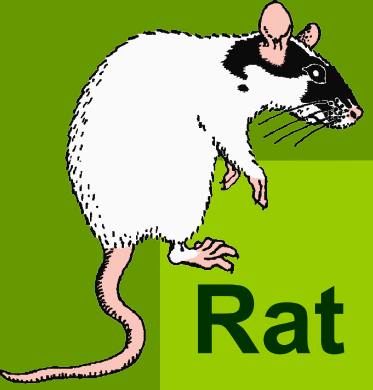


# Rat Dissection

## 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 — **Trachae**
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**

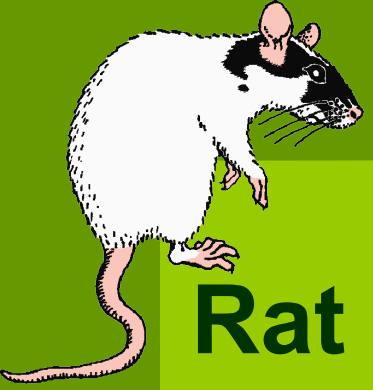


# Rat Dissection

## 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 Intestines**
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**



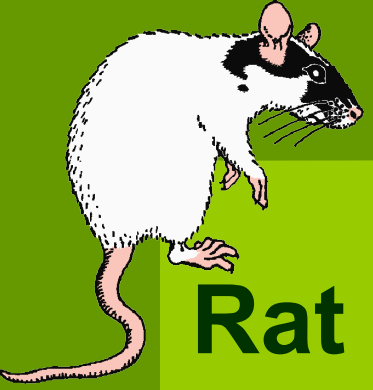


# Rat Dissection

## ORGAN FUNCTION

## NAME THAT ORGAN:

1. Removes wastes + excess $H_20$ from blood — **Kidney**
2. Houses developing fetuses — **Uterine Horn**
3. Produces and stores sperm — **Testes**
4. Stores urine before excretion — **Bladder**
5. Secretes a fluid that aids sperm survival and motility — **Prostate**
6. Produces eggs — **Ovary**
7. Carry urine from kidney to bladder — **Ureter**
8. Secretes a fluid that nourishes sperm — **Seminal Vesicle**
9. Sac that holds the testes — **Scrotum**





# Rat Dissection

## ORGAN FUNCTION

## NAME THAT ORGAN:

1. Takes blood from heart to lungs — **Pulmonary Artery**
2. Large veins take blood to right atrium — **Vena Cava**
3. Top chambers, receive blood — **Atria**
4. Membrane around heart — **Pericardial Sac**
5. Artery taking blood to head — **Common Carotid**
6. Bottom chambers that pump blood out — **Ventricles**
7. Largest artery taking blood from left ventricle — **Aorta**
8. Lower descending aorta takes blood to lower trunk and legs — **Abdominal Aorta**
9. Takes blood to kidneys — **Renal Artery**