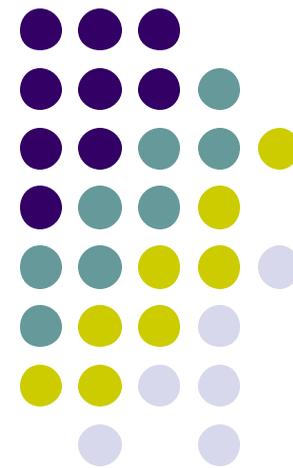


METABOLISMO

SISTEMA DIGESTIVO

DRA. L. CUEVAS
NURS 1231

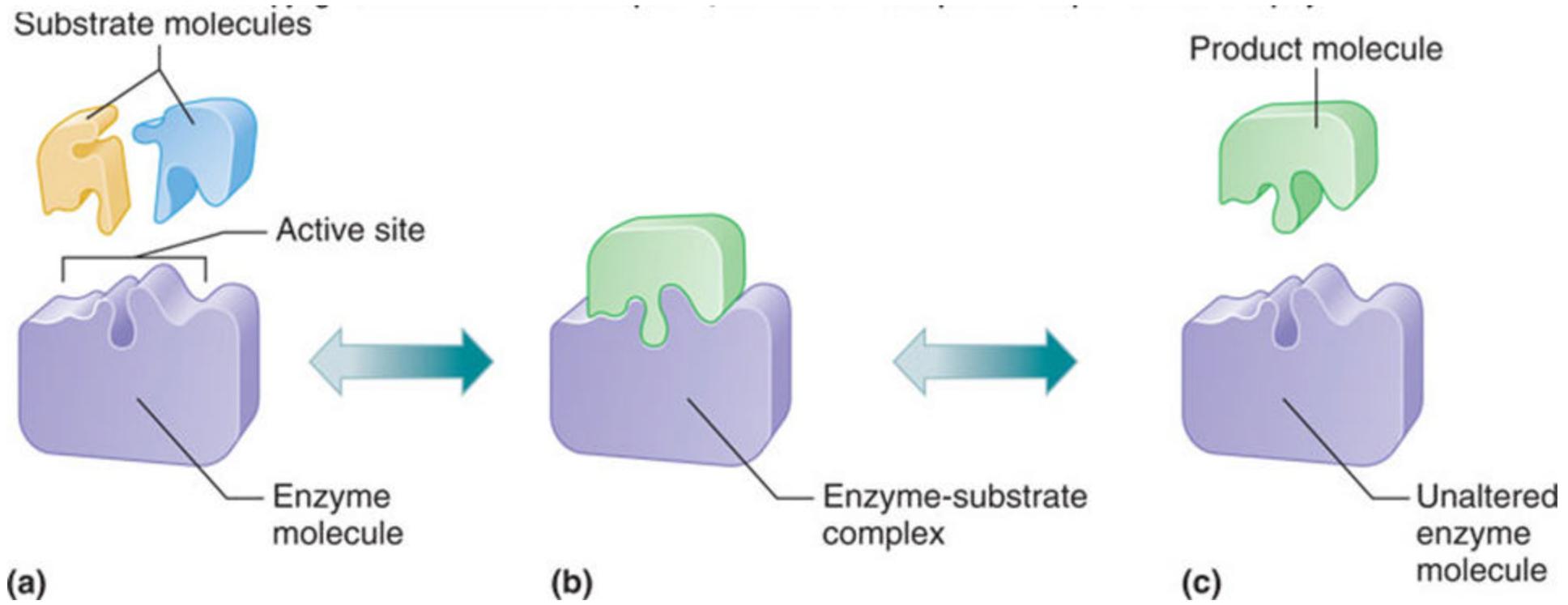
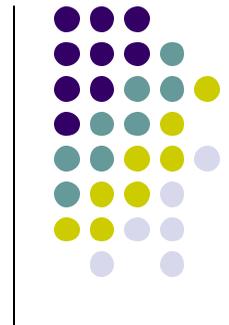


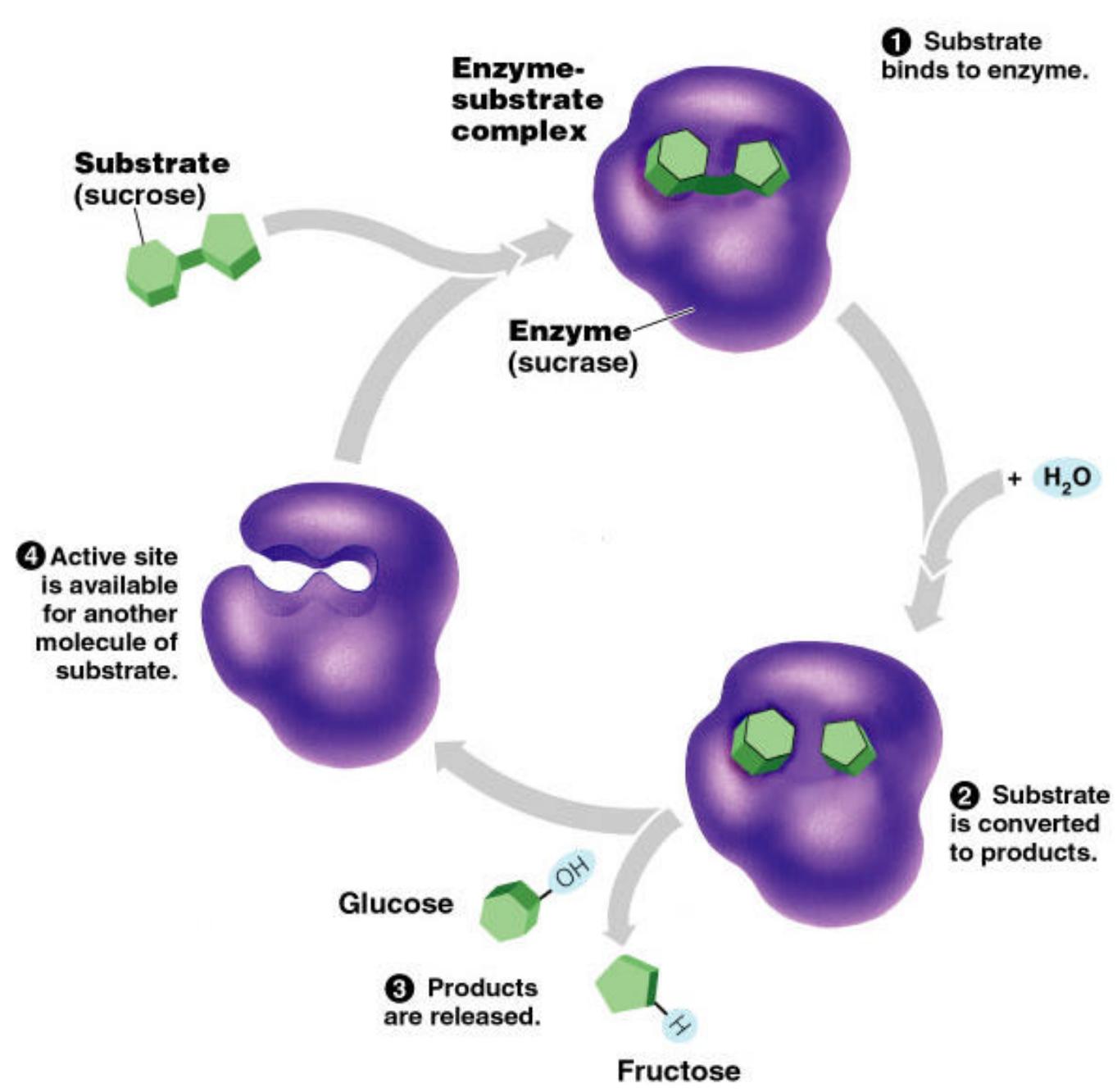
METABOLISMO



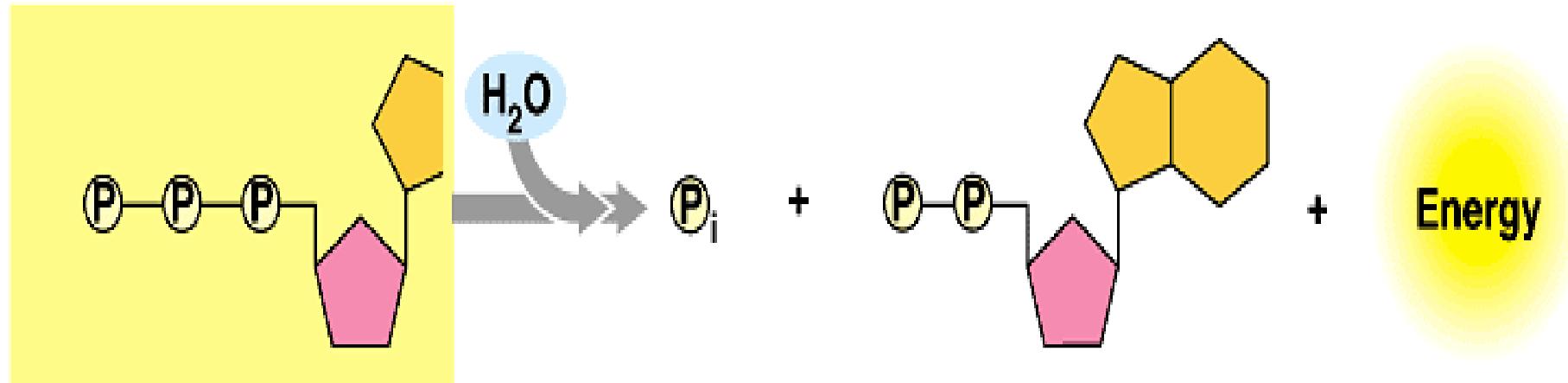
- Definición
- CATABOLISMO
- ANABOLISMO
- Repasar el concepto de enzima
- Repasar estructura del ATP
- Respiración aeróbica
- Procesos anaeróbicos

Accion de las enzimas





ATP



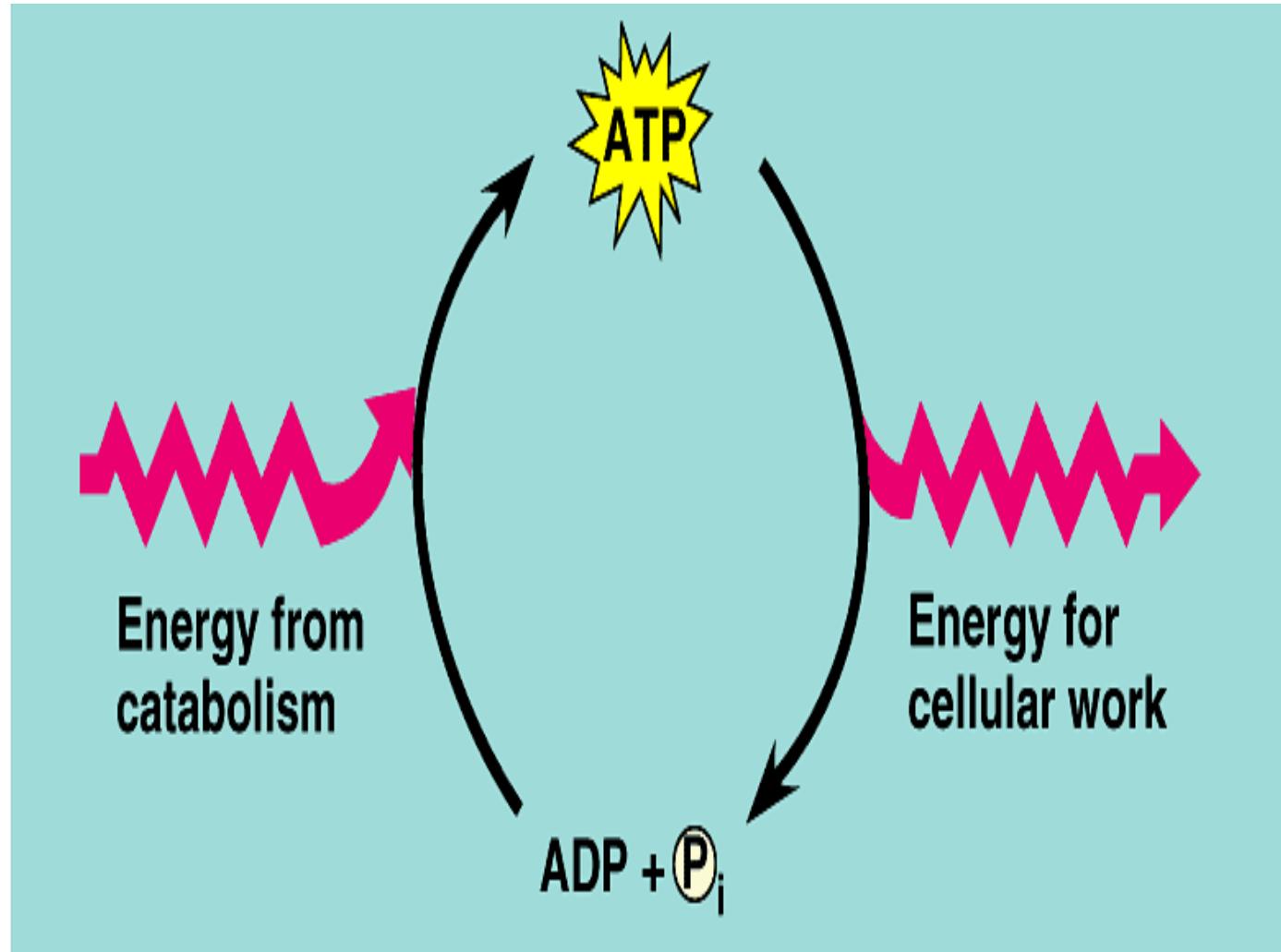
Adenosine triphosphate

Inorganic phosphate

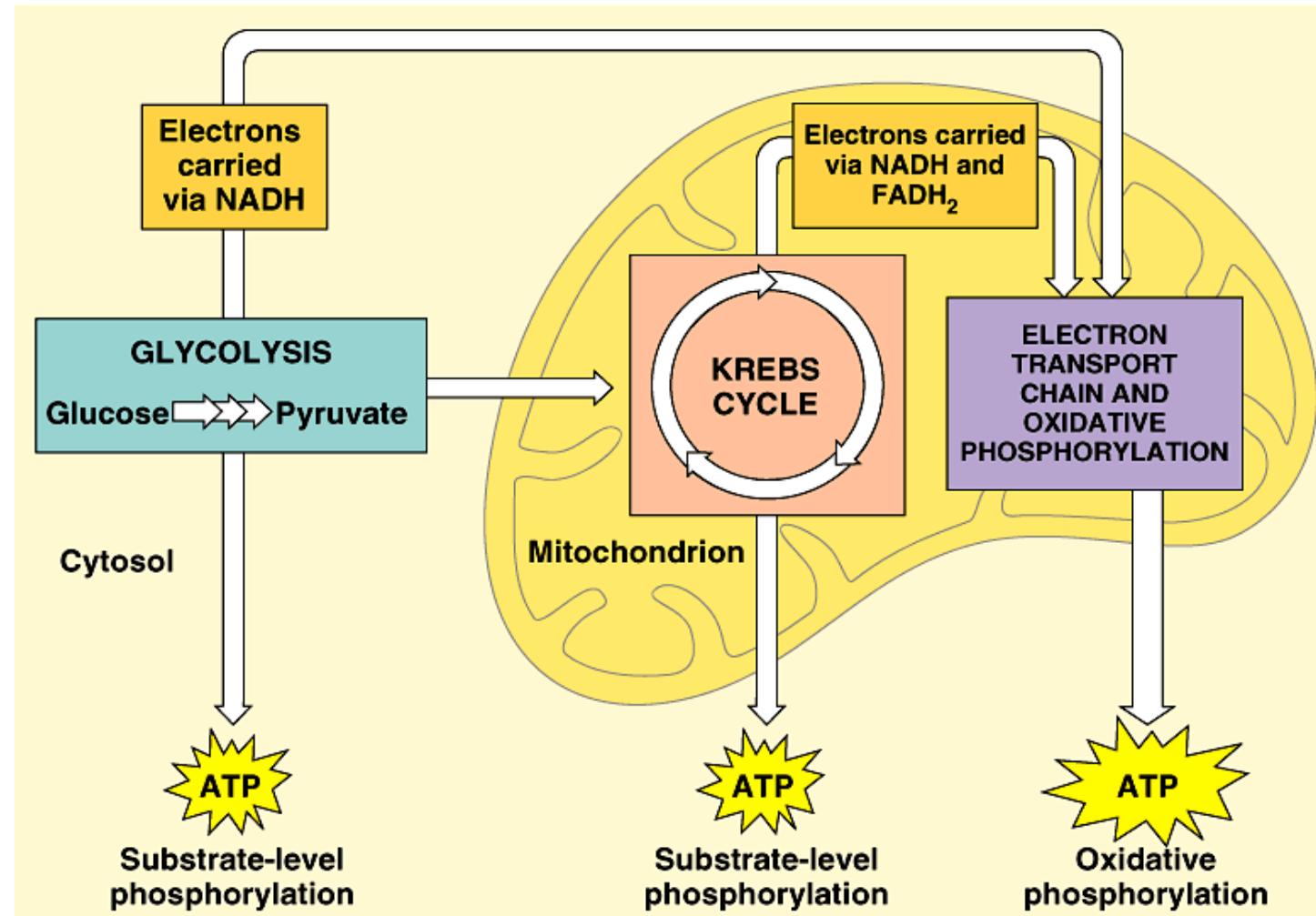
Adenosine diphosphate (ADP)

Energy

CICLO DEL ATP



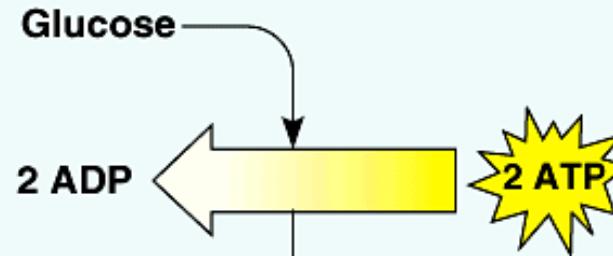
RESPIRACION CELULAR



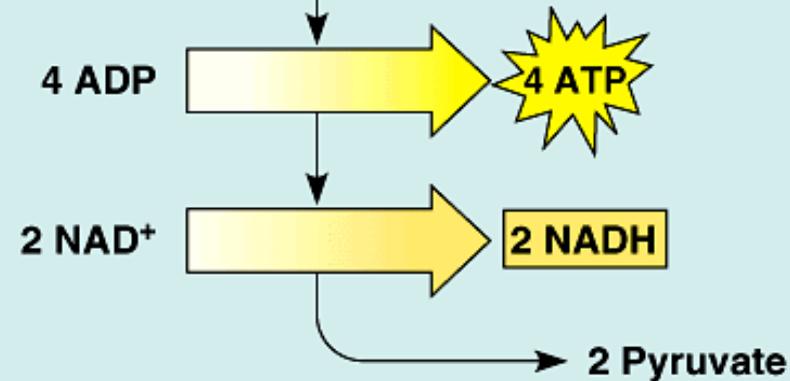
GLUCOLYSIS



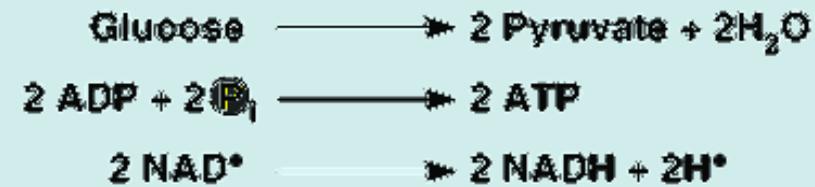
ENERGY INVESTMENT PHASE



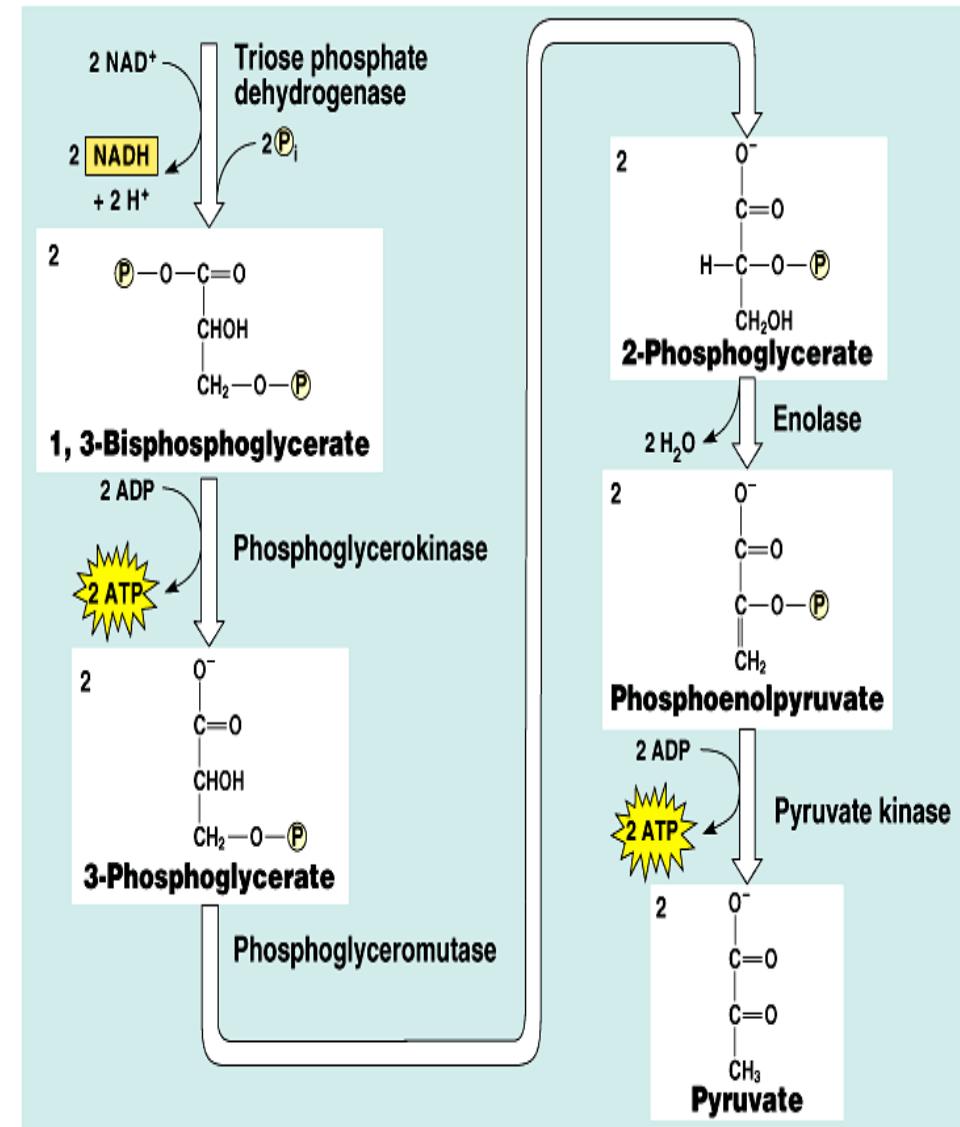
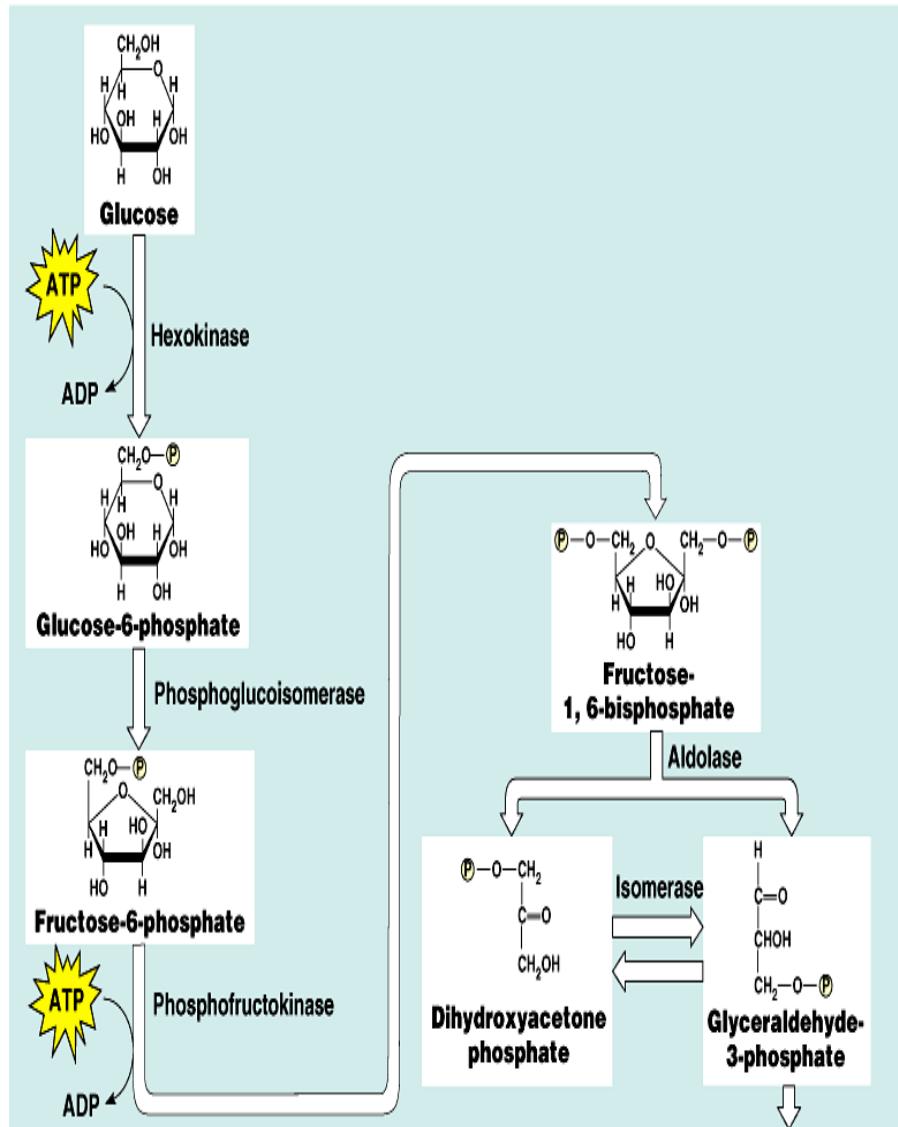
ENERGY PAYOFF PHASE



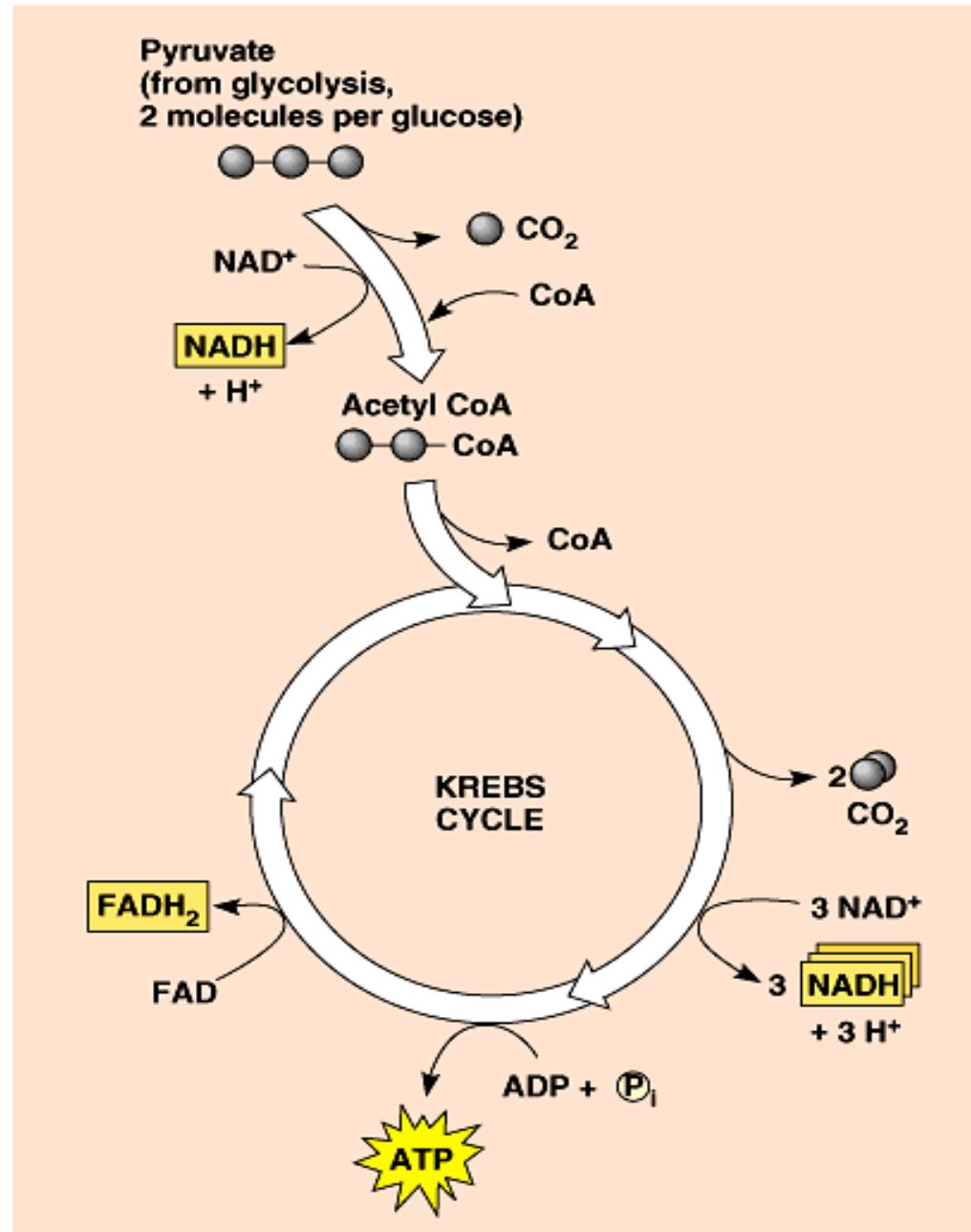
NET



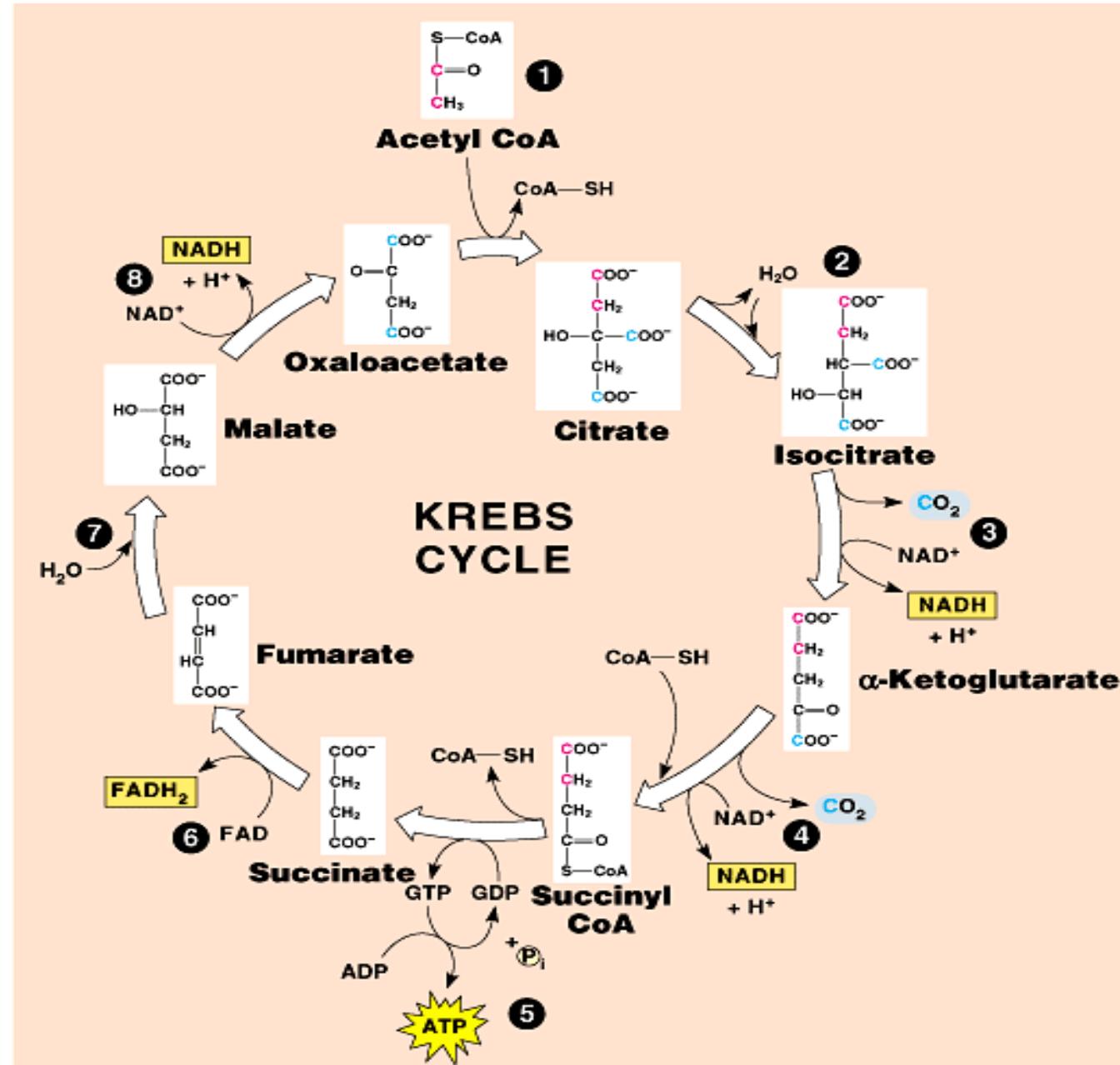
GLUCOLYSIS



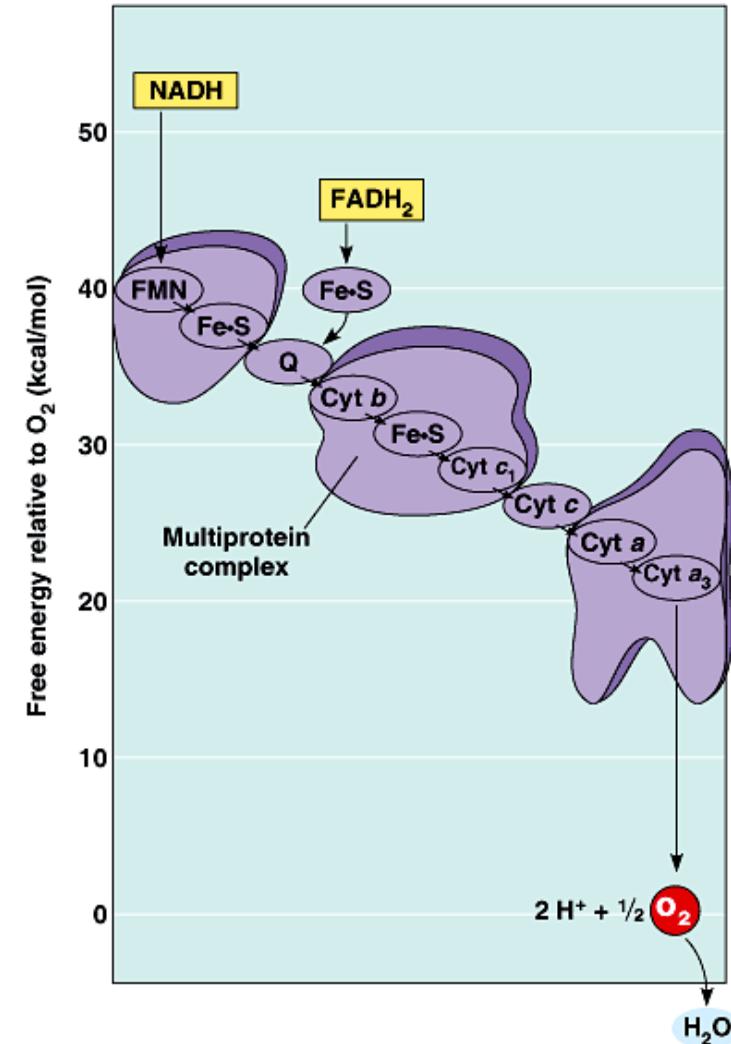
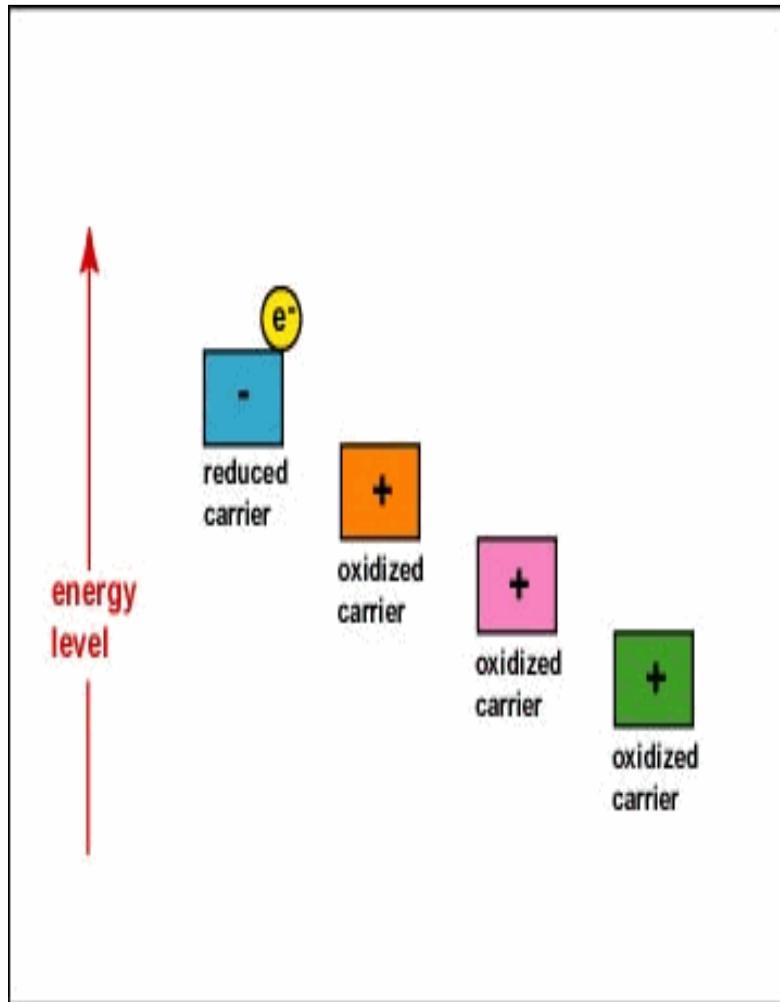
ENTRADA DE PIRUVATO AL CICLO DE KREBS

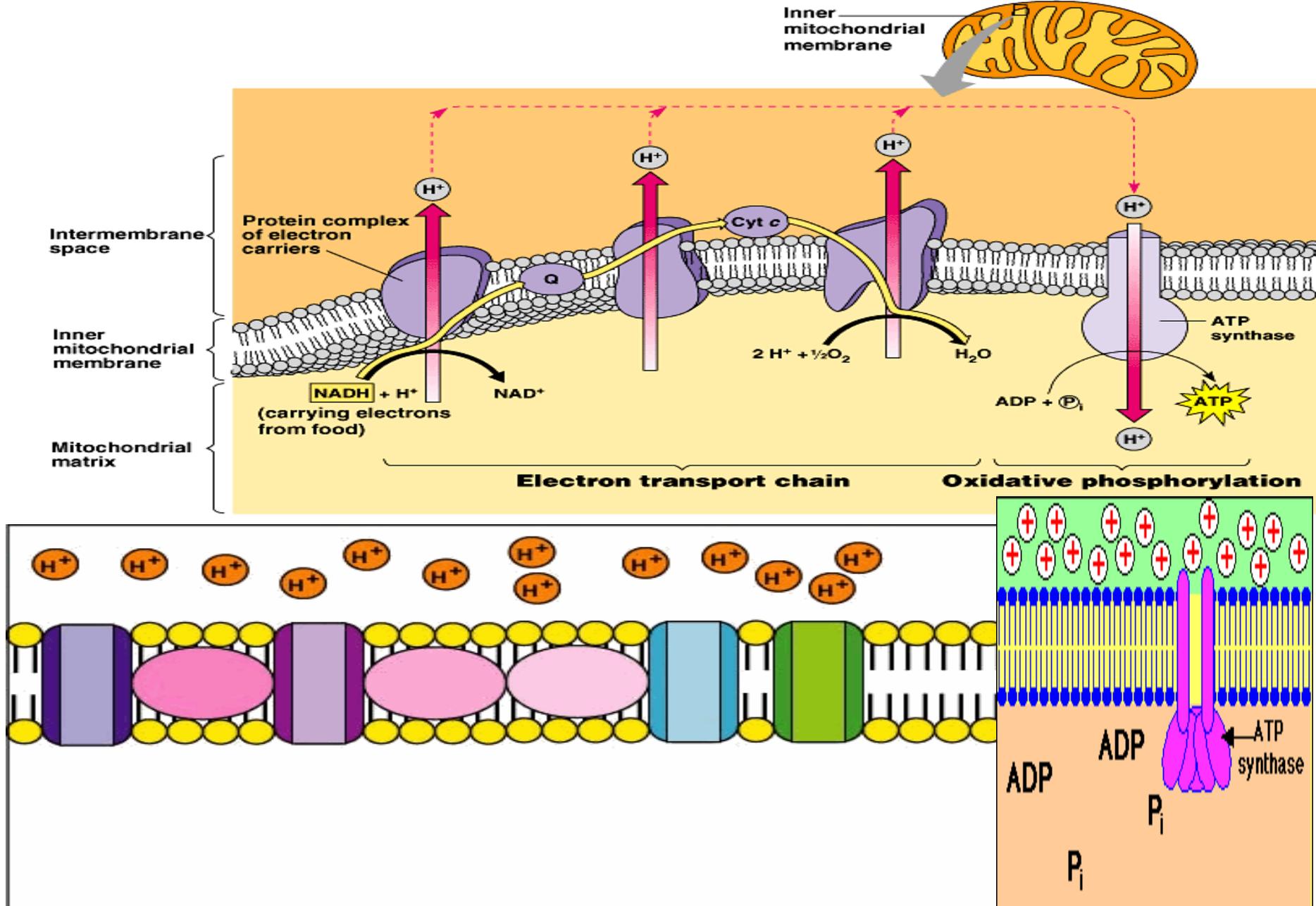


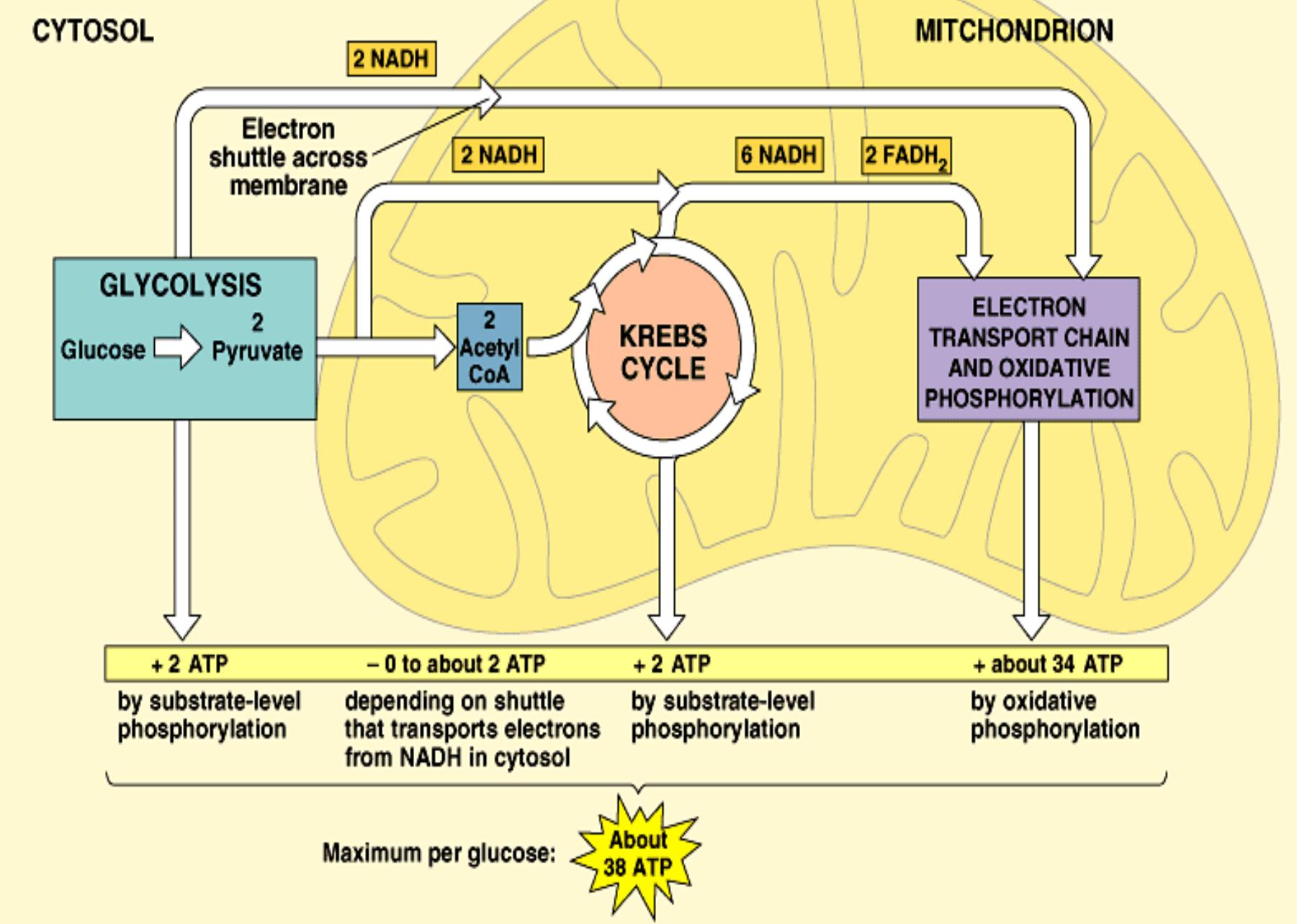
CICLO DE KREBS



REACCIONES EN LA CADENA DE TRANSPORTE DE ELECTRONES



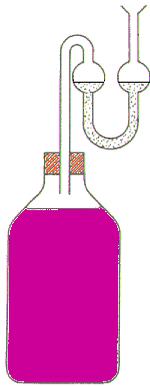




PROCESOS ANAEROBICOS



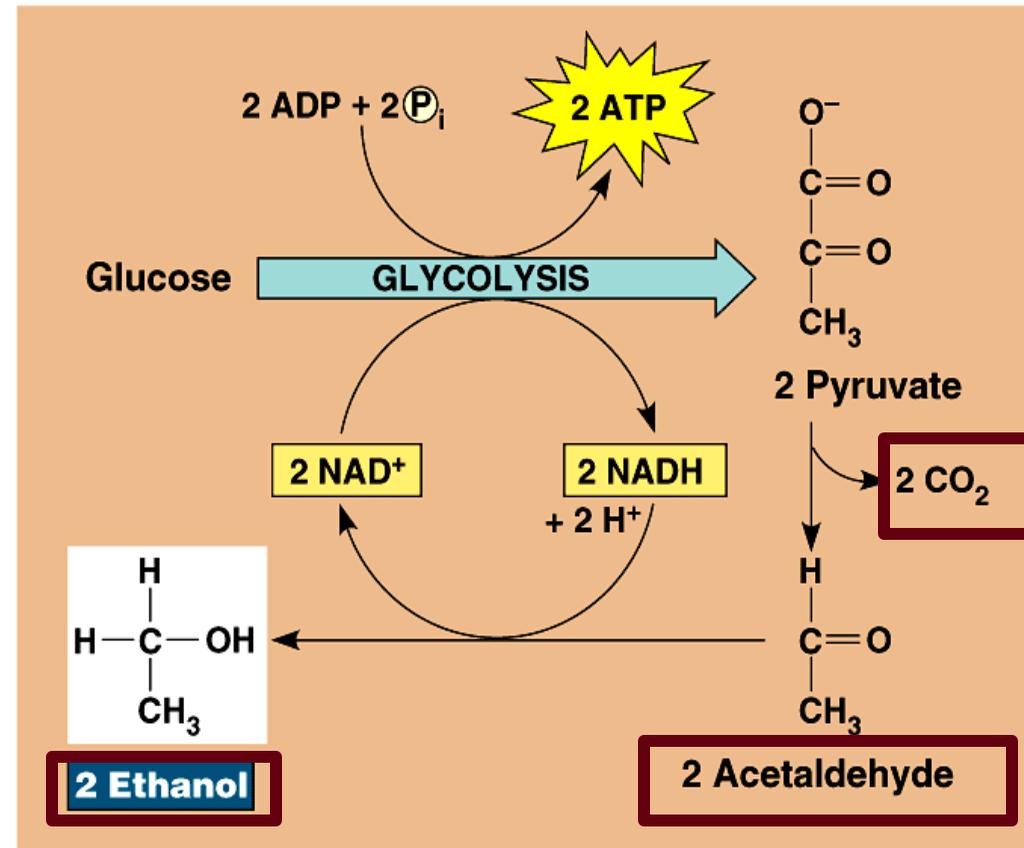
- FERMENTACION
- Se produce ATP sin necesidad de oxígeno
- Ocorre en el citoplasma
- Hay 2 tipos:
 - ALCOHOLICA
 - LACTICA



FERMENTACION alcoholica



- LEVADURAS
 - PAN
 - Pizza
 - Vino

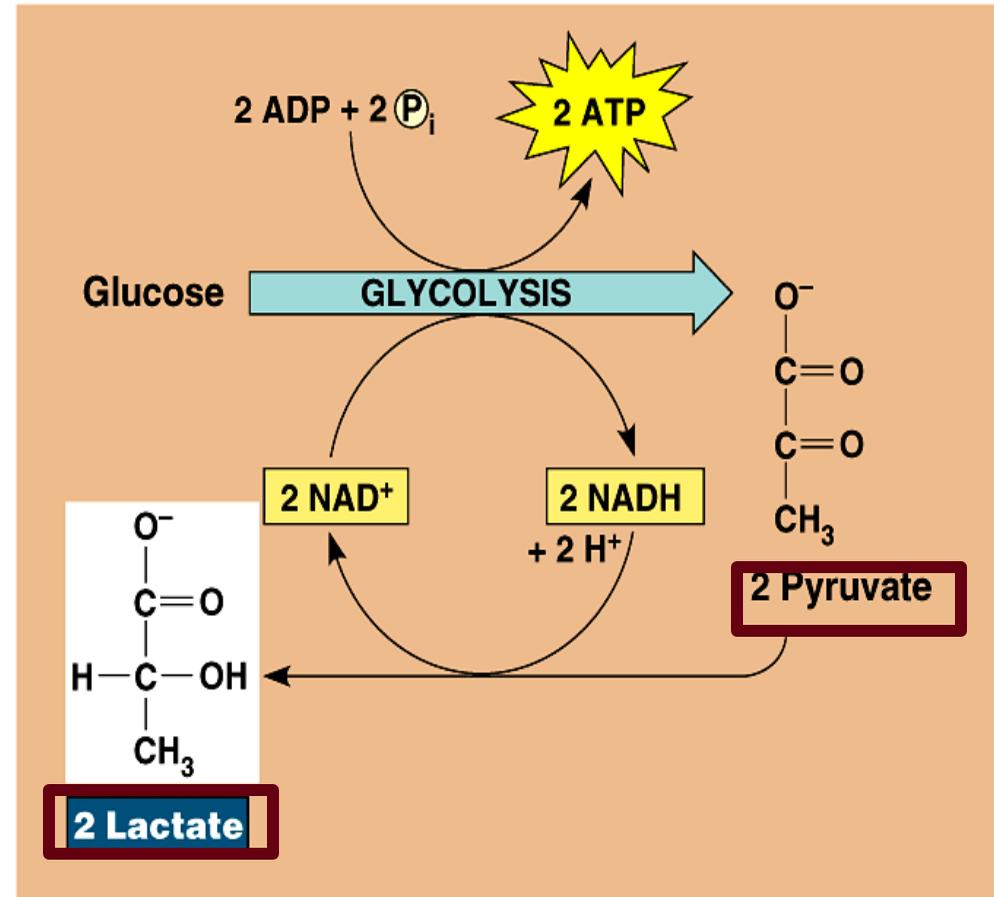


(a) Alcohol fermentation

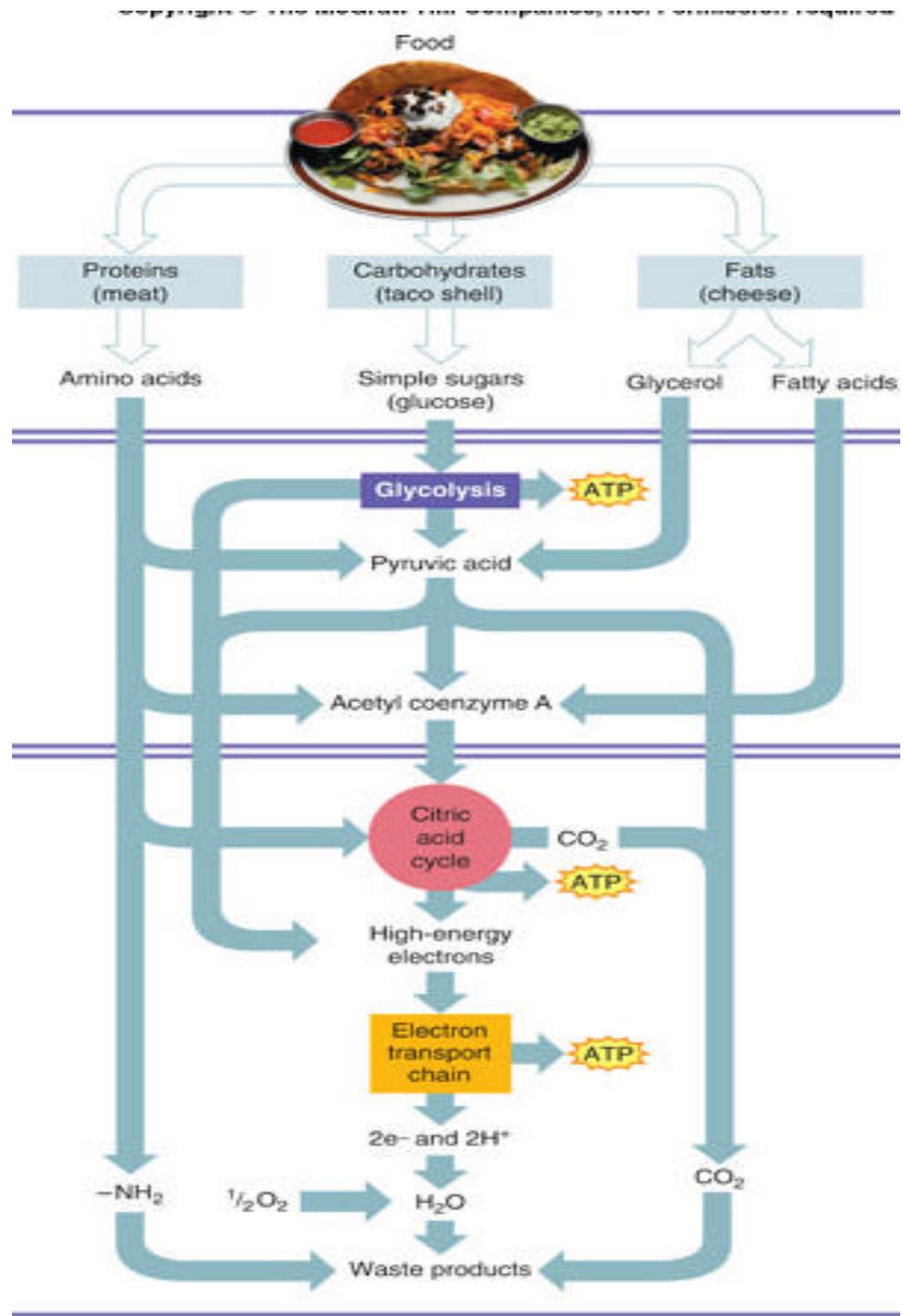
FERMENTACION LACTICA



- Hongo y bacterias
- Queso y yogurt
- Celulas musculares



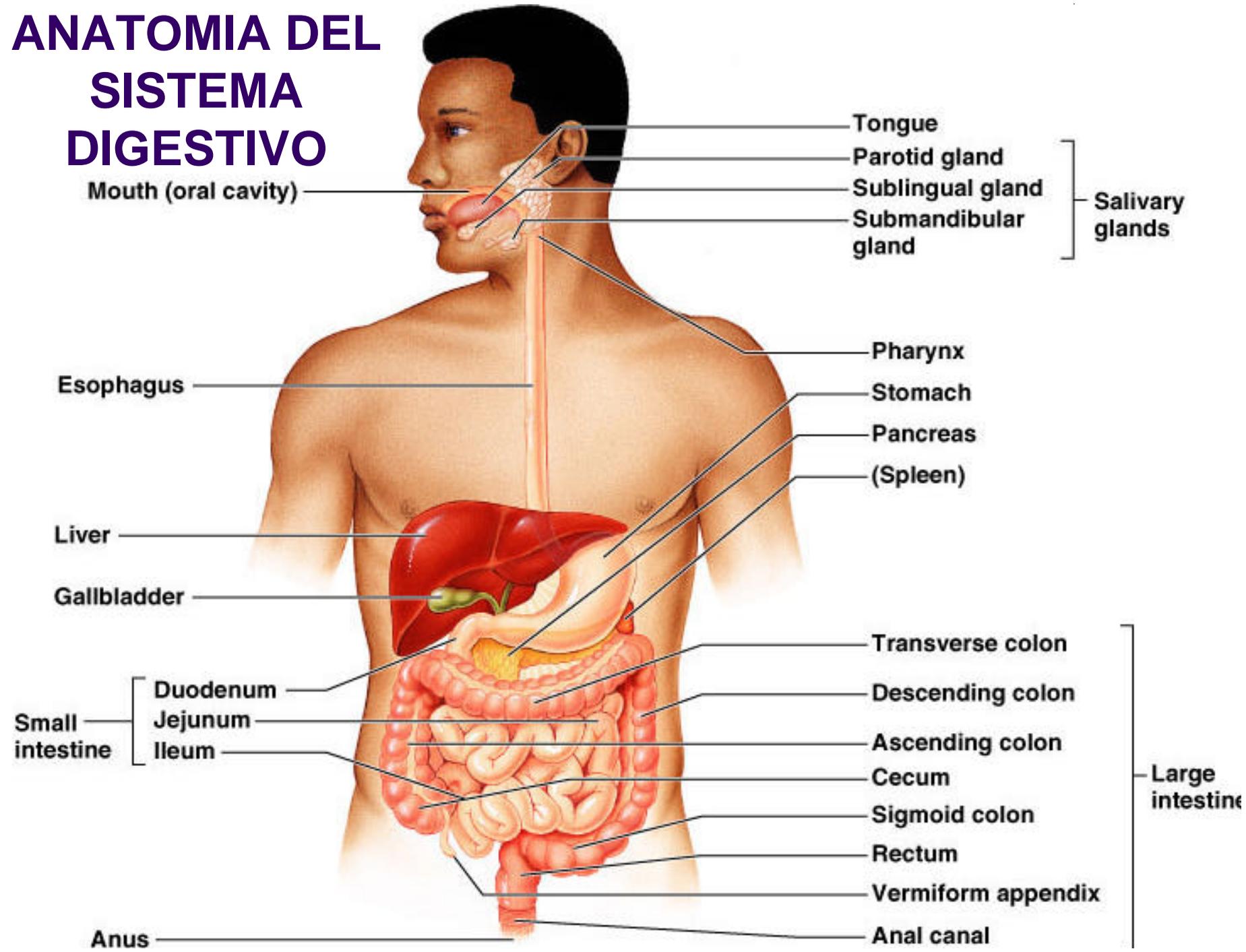
(b) Lactic acid fermentation





SISTEMA DIGESTIVO

ANATOMIA DEL SISTEMA DIGESTIVO



ANATOMIA Y FISILOGIA DEL SISTEMA DIGESTIVO



ACCESSORY ORGANS

Salivary glands
Secrete saliva, which contains enzymes that initiate breakdown of carbohydrates

Liver
Produces bile, which emulsifies fat

Gallbladder
Stores bile and introduces it into small intestine

Pancreas
Produces and secretes pancreatic juice, containing digestive enzymes and bicarbonate ions, into small intestine

ALIMENTARY CANAL

Mouth
Mechanical breakdown of food; begins chemical digestion of carbohydrates

Pharynx
Connects mouth with esophagus.

Esophagus
Peristalsis pushes food to stomach

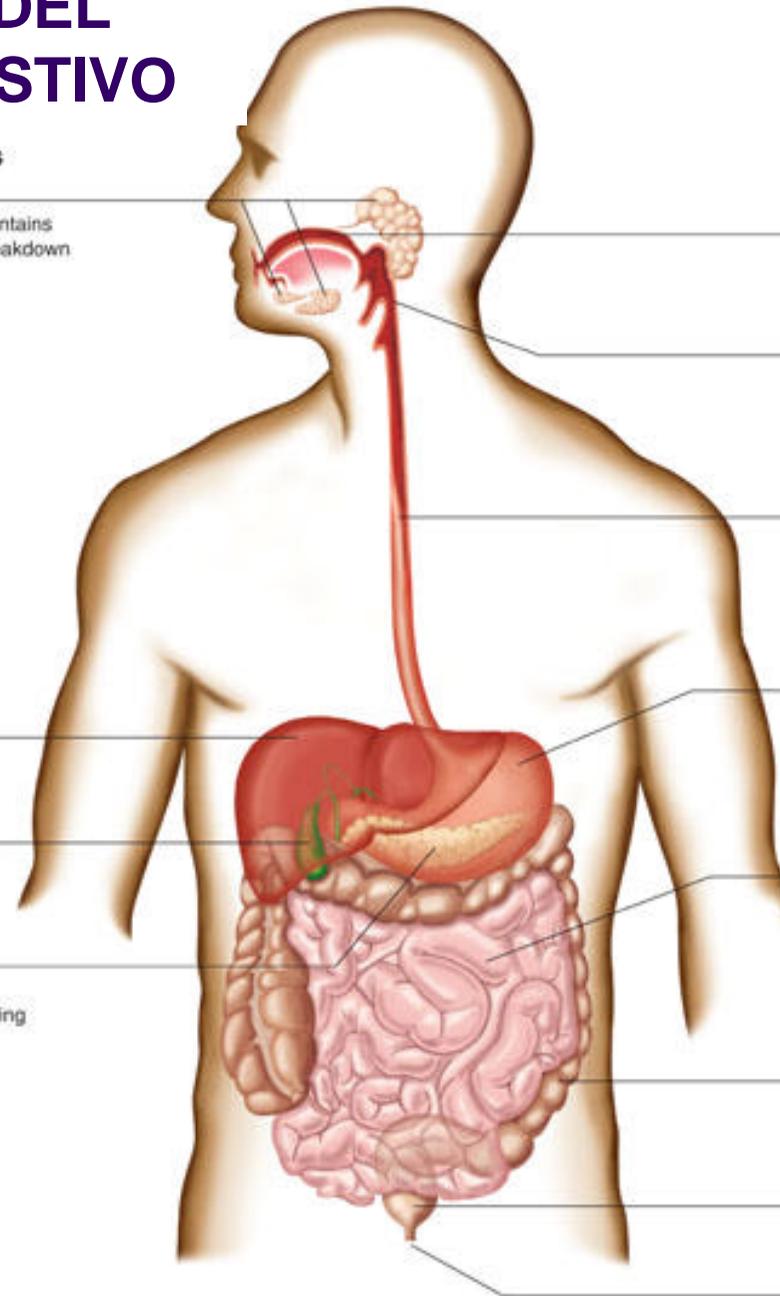
Stomach
Secretes acid and enzymes. Mixes food with secretions to begin enzymatic digestion of proteins

Small intestine
Mixes food with bile and pancreatic juice. Final enzymatic breakdown of food molecules; main site of nutrient absorption

Large intestine
Absorbs water and electrolytes to form feces

Rectum
Regulates elimination of feces

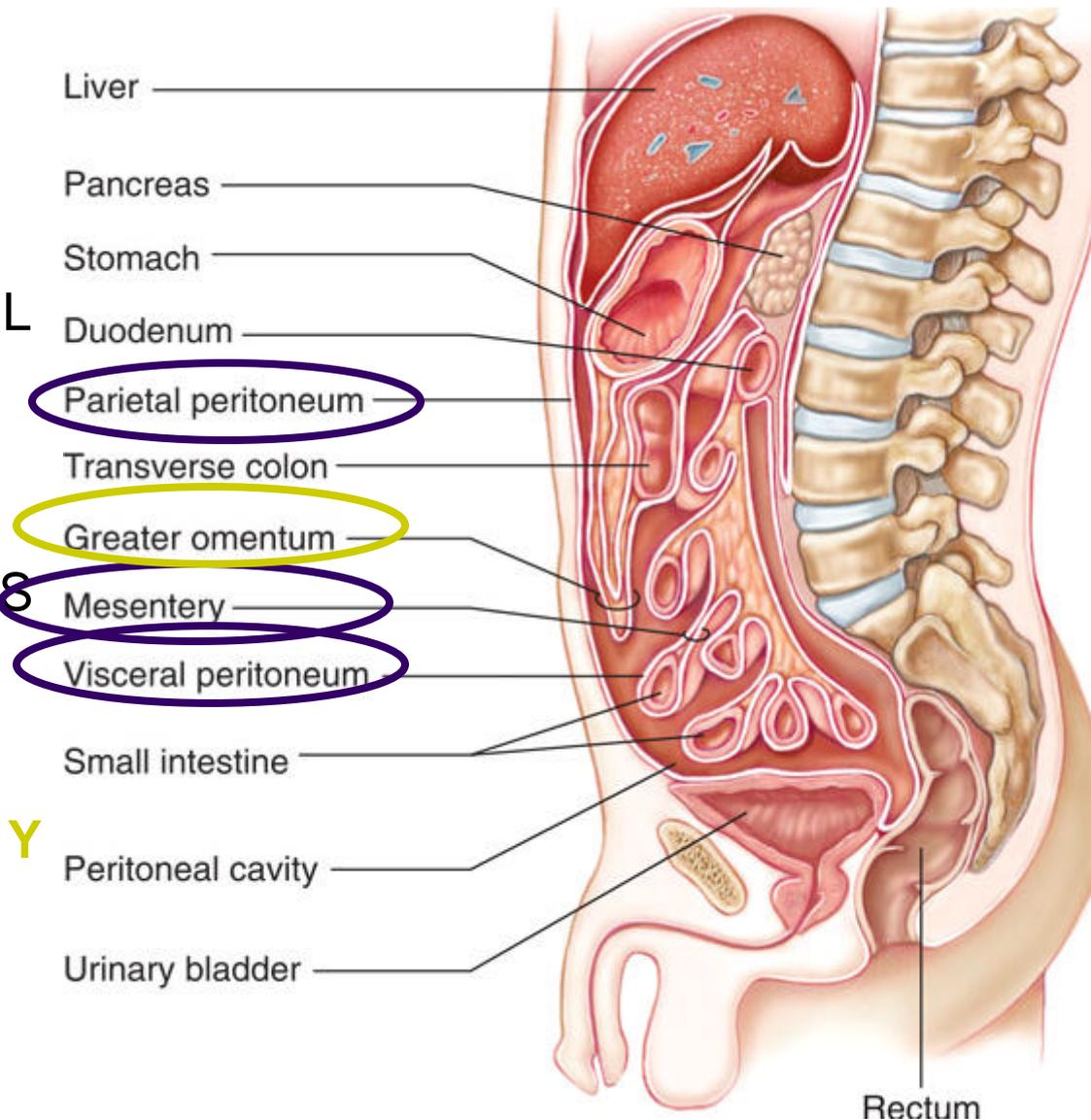
Anus

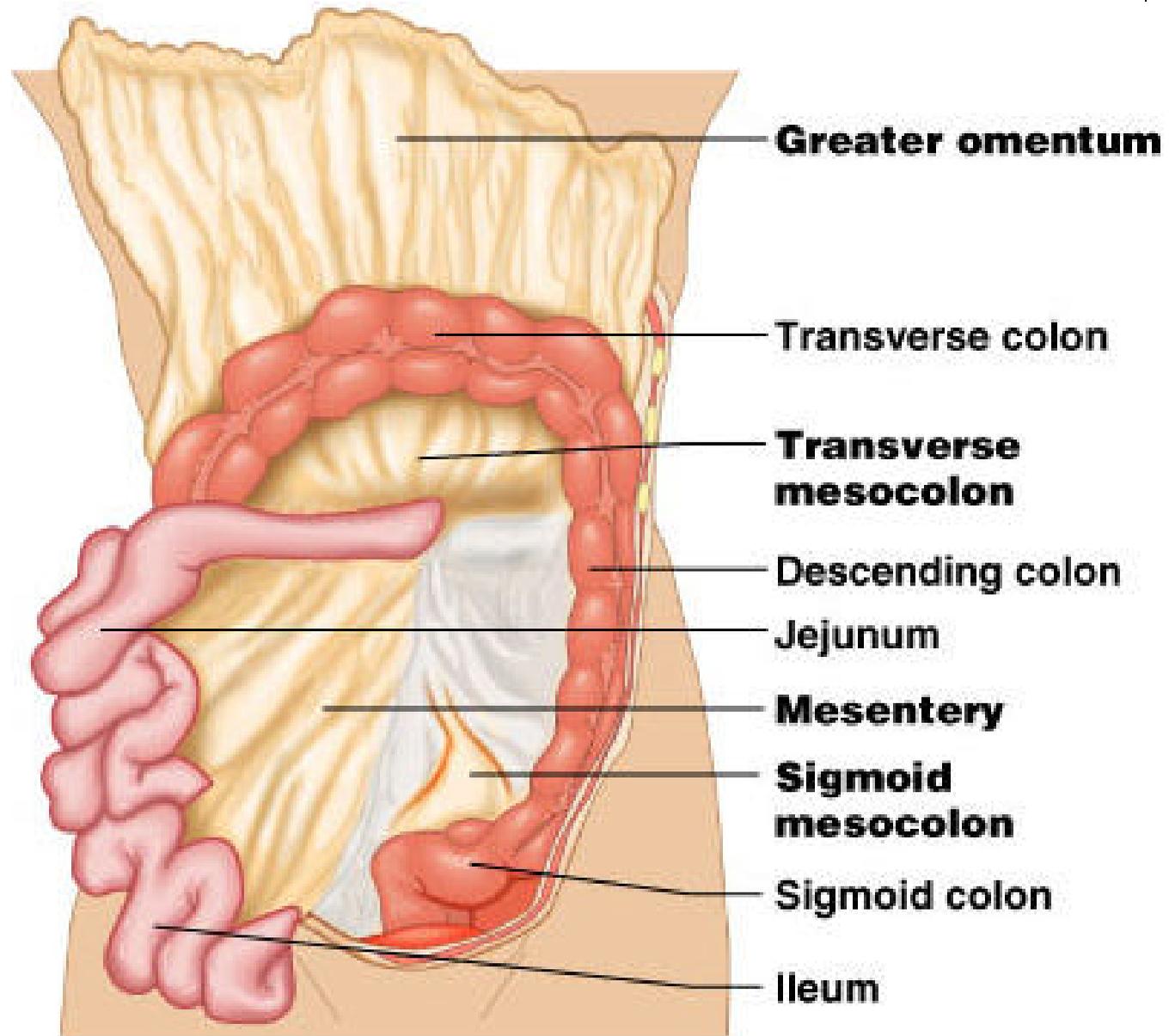


TEJIDOS DE PROTECCION DE LA CAVIDAD ABDOMINAL

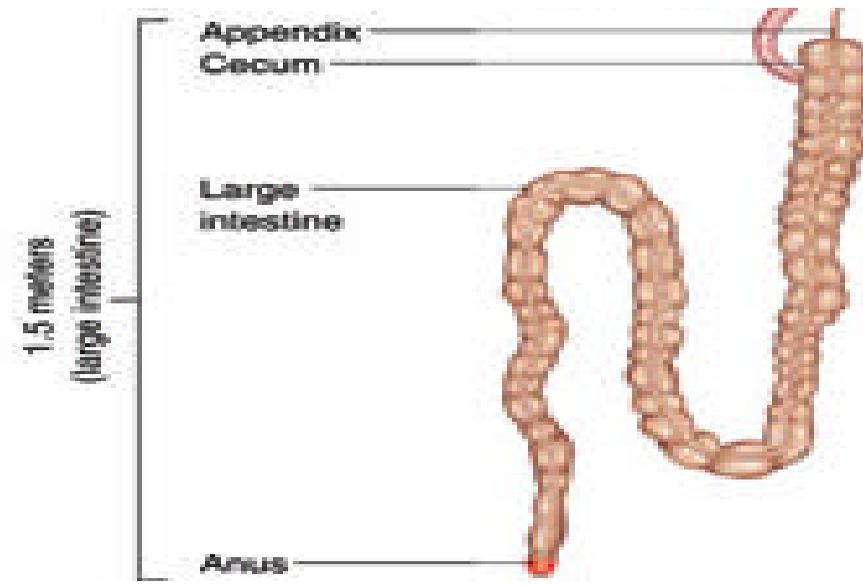
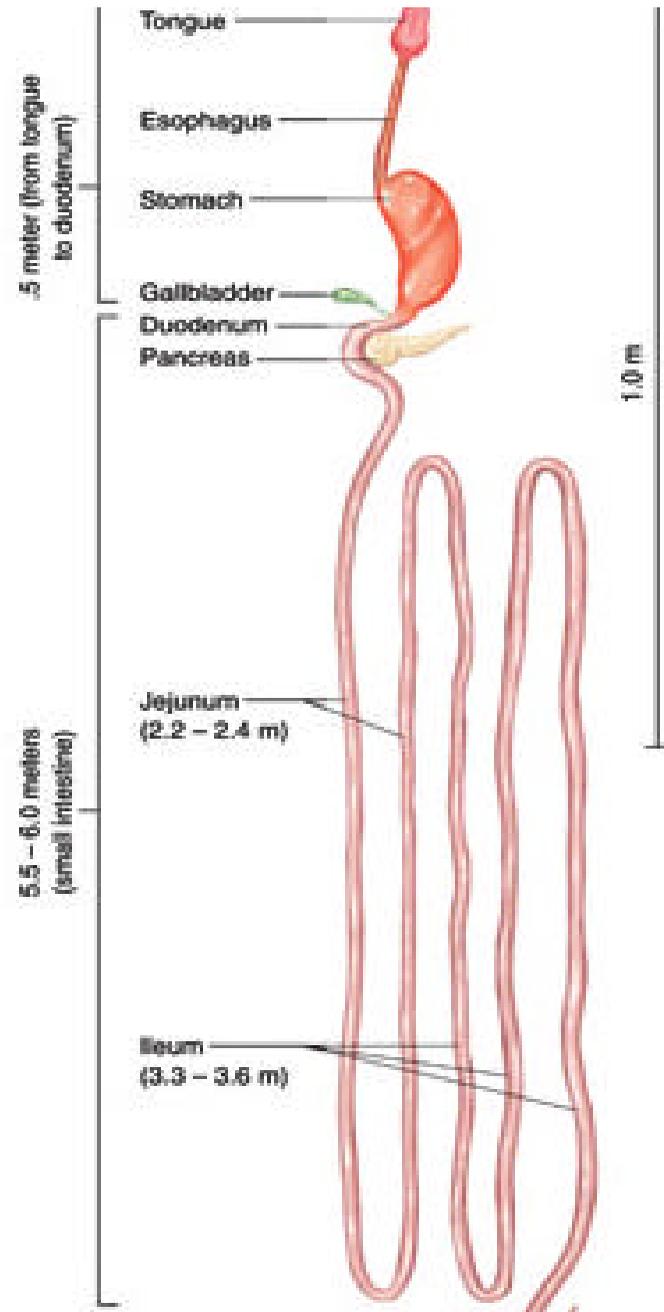
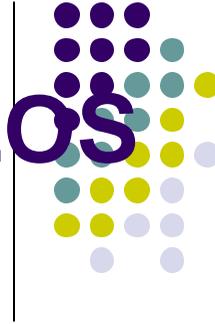


- PERITONEO
- MESENTERIO
 - DOBLECES DEL PERITONEO
- GREATER OMENTUM
 - DOBLE DOBLES DESDE EL ESTOMAGO-COLON TRANSVERSO Y EL INTESTINO DELGADO

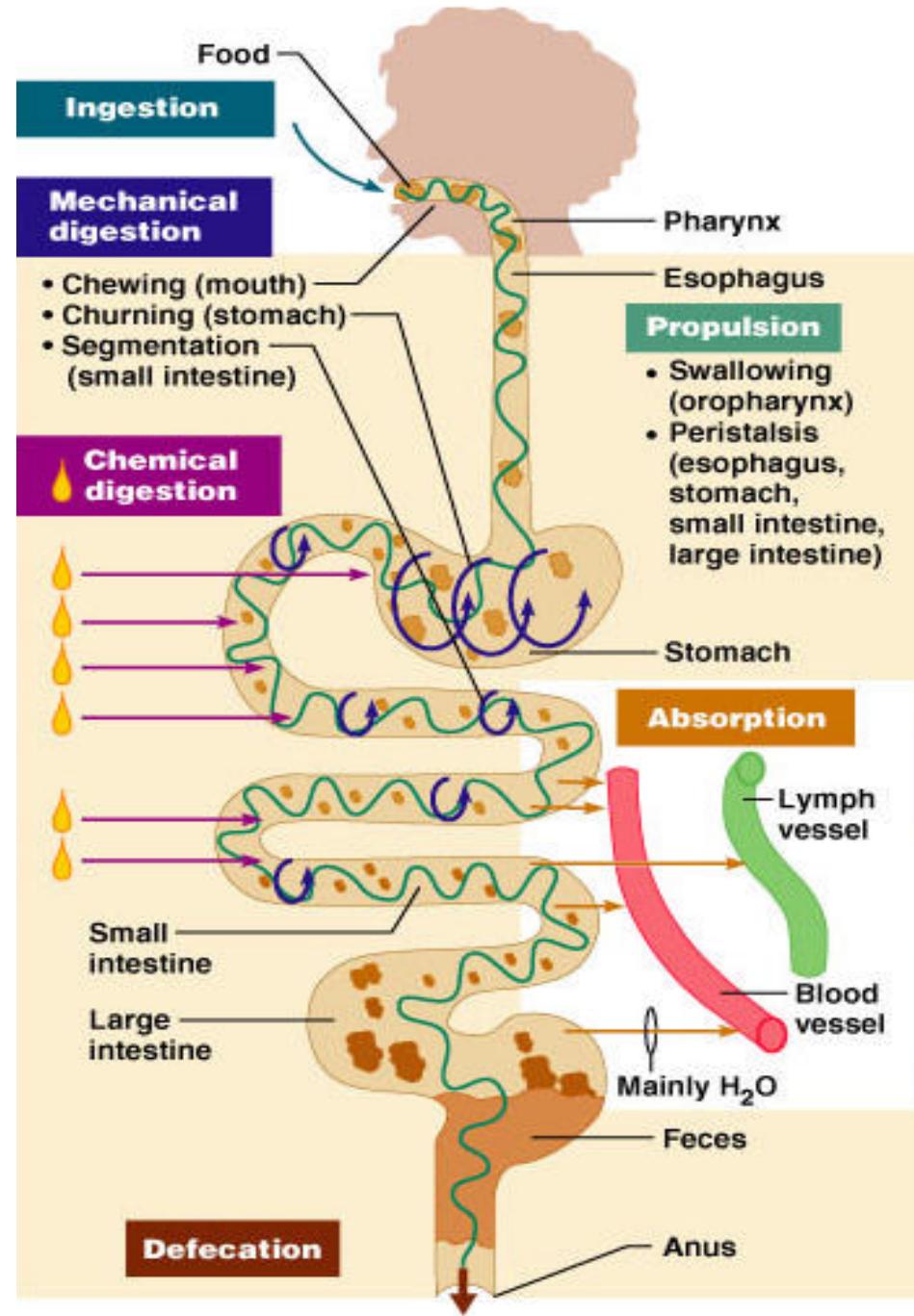




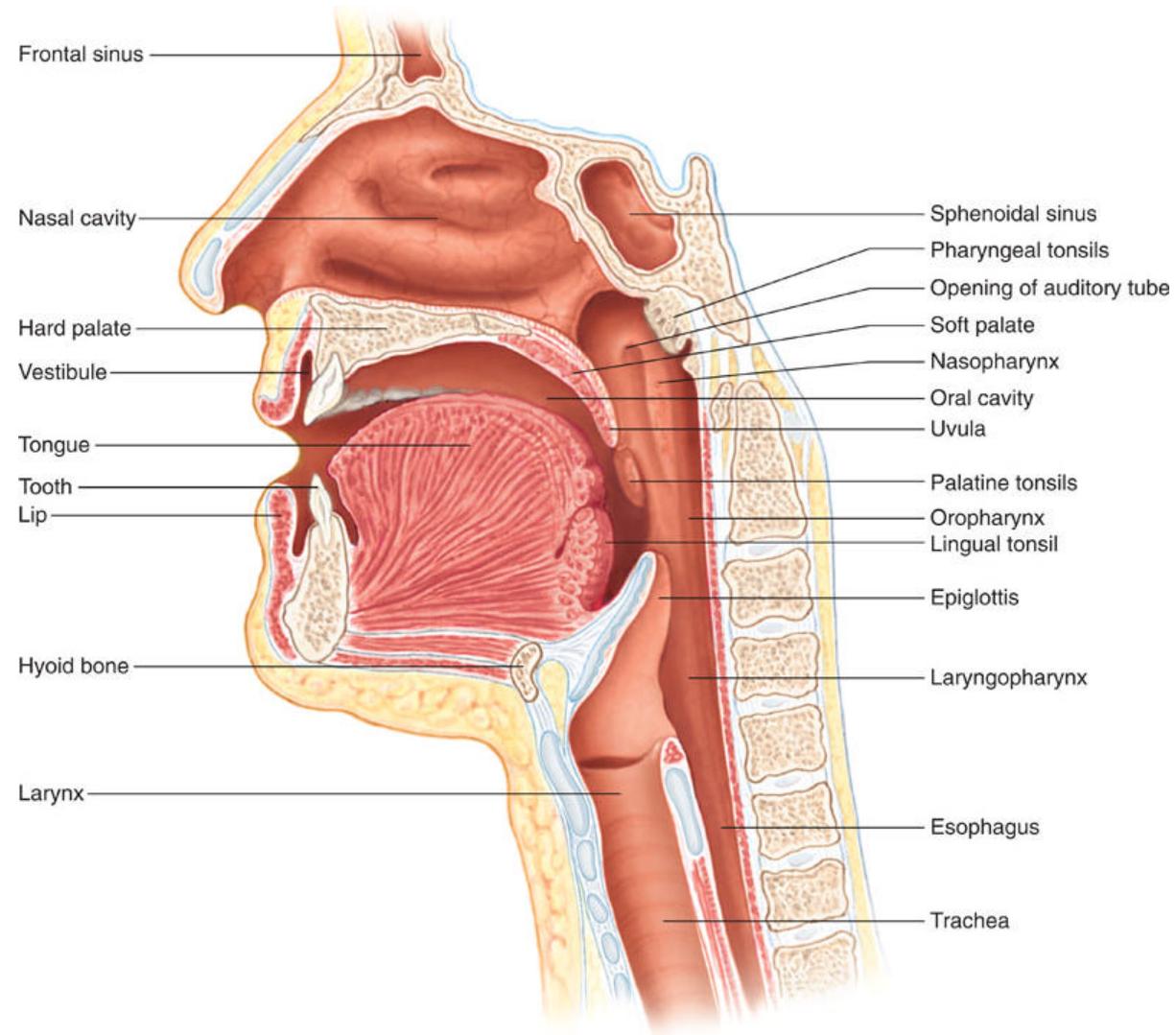
TAMAÑO RELATIVO DE LOS ORGANOS



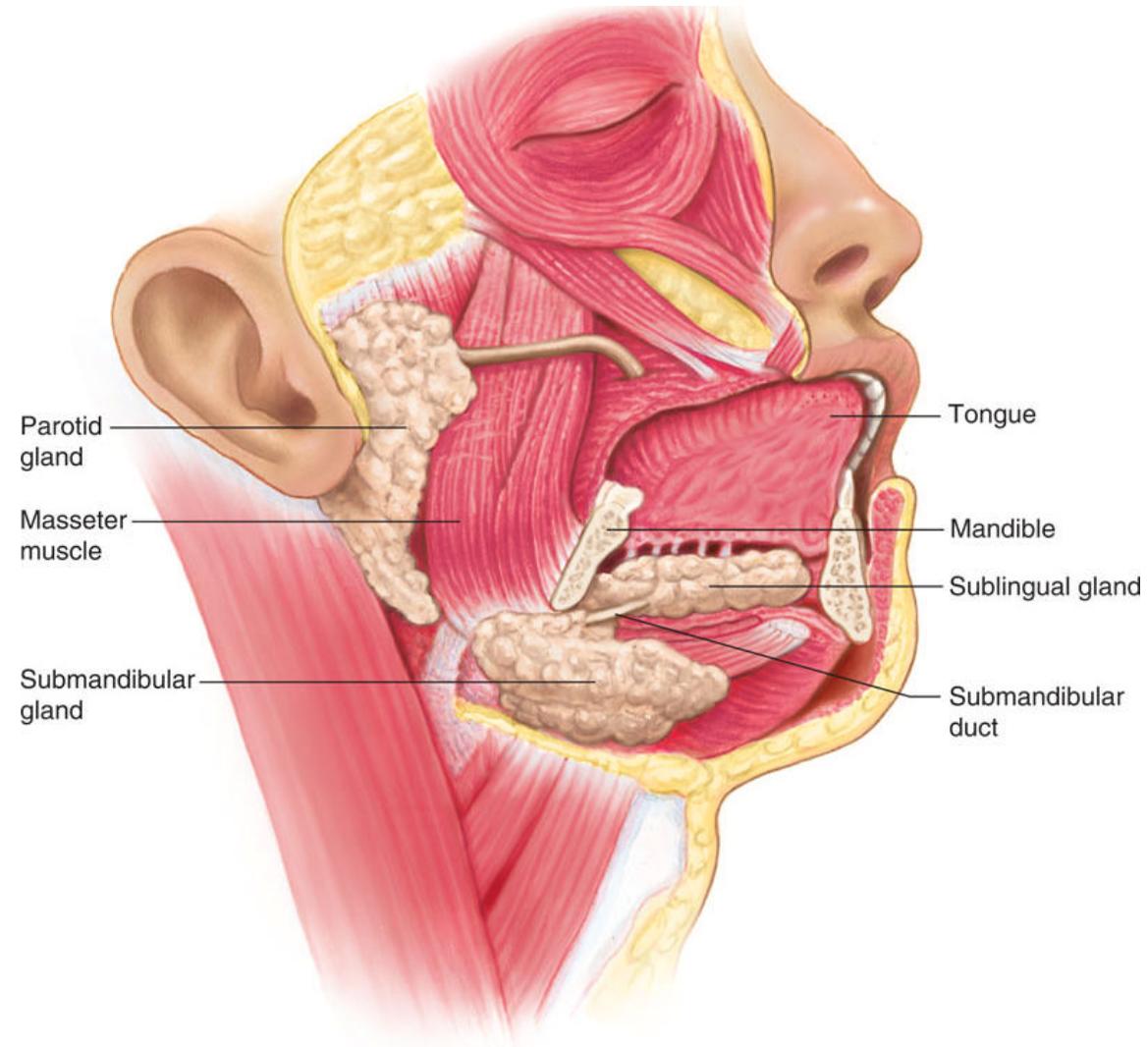
DIGESTION



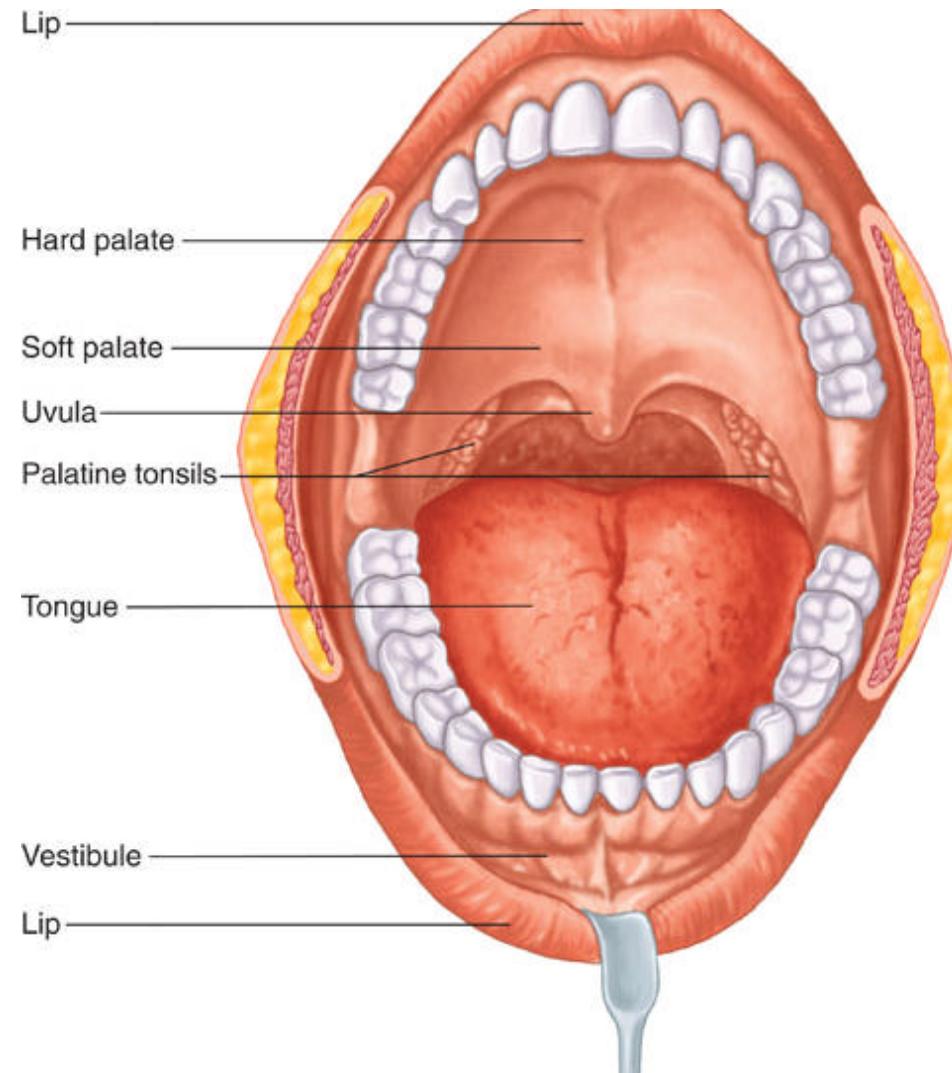
CAVIDAD BUCAL, NASAL Y FARINGE



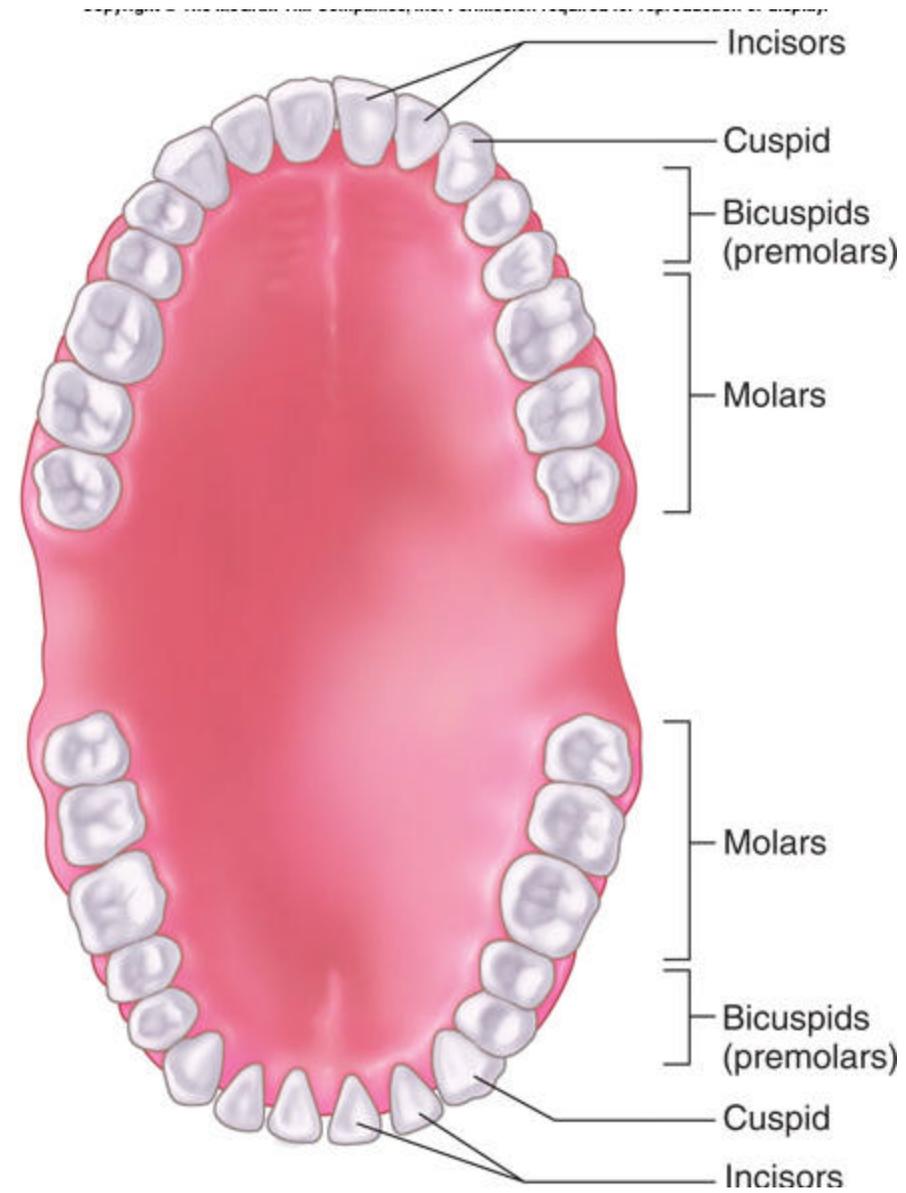
GLANDULAS SALIVARES



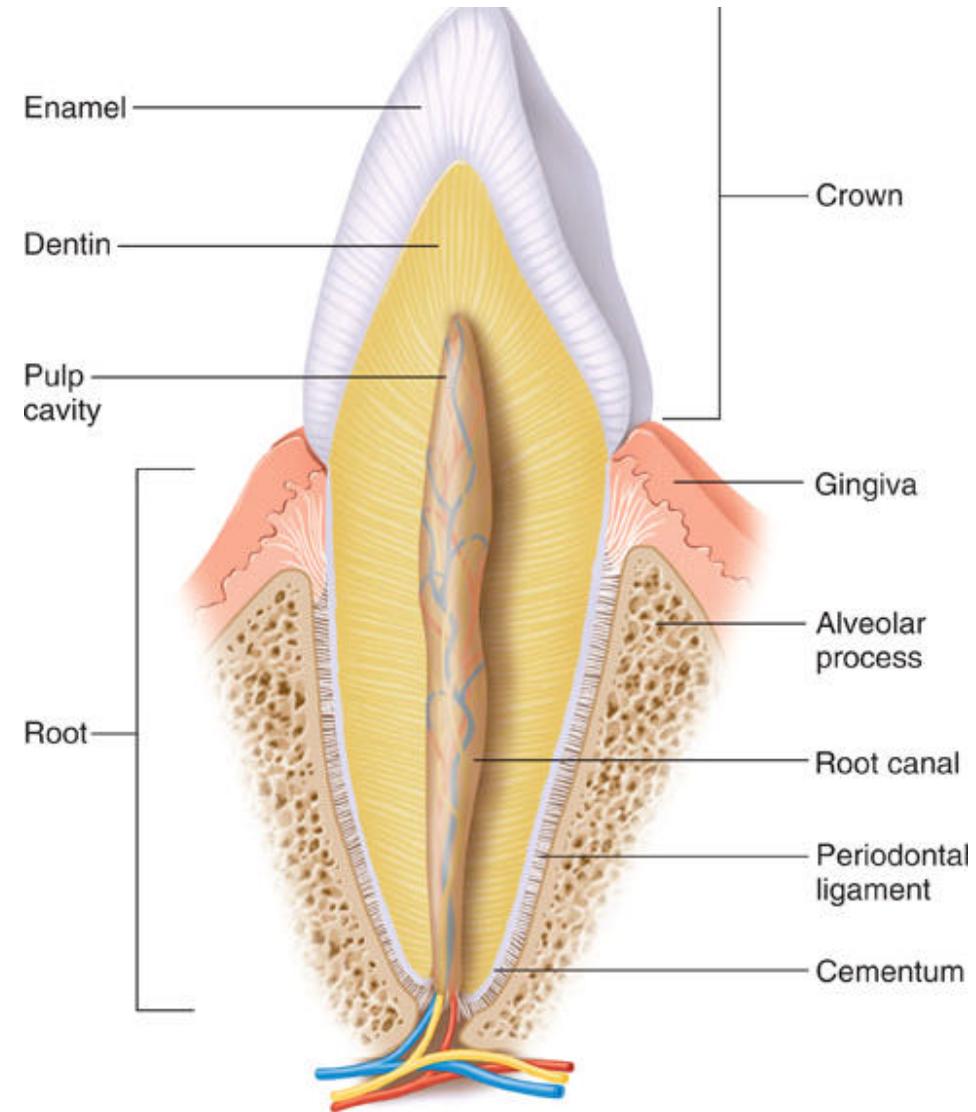
BOCA



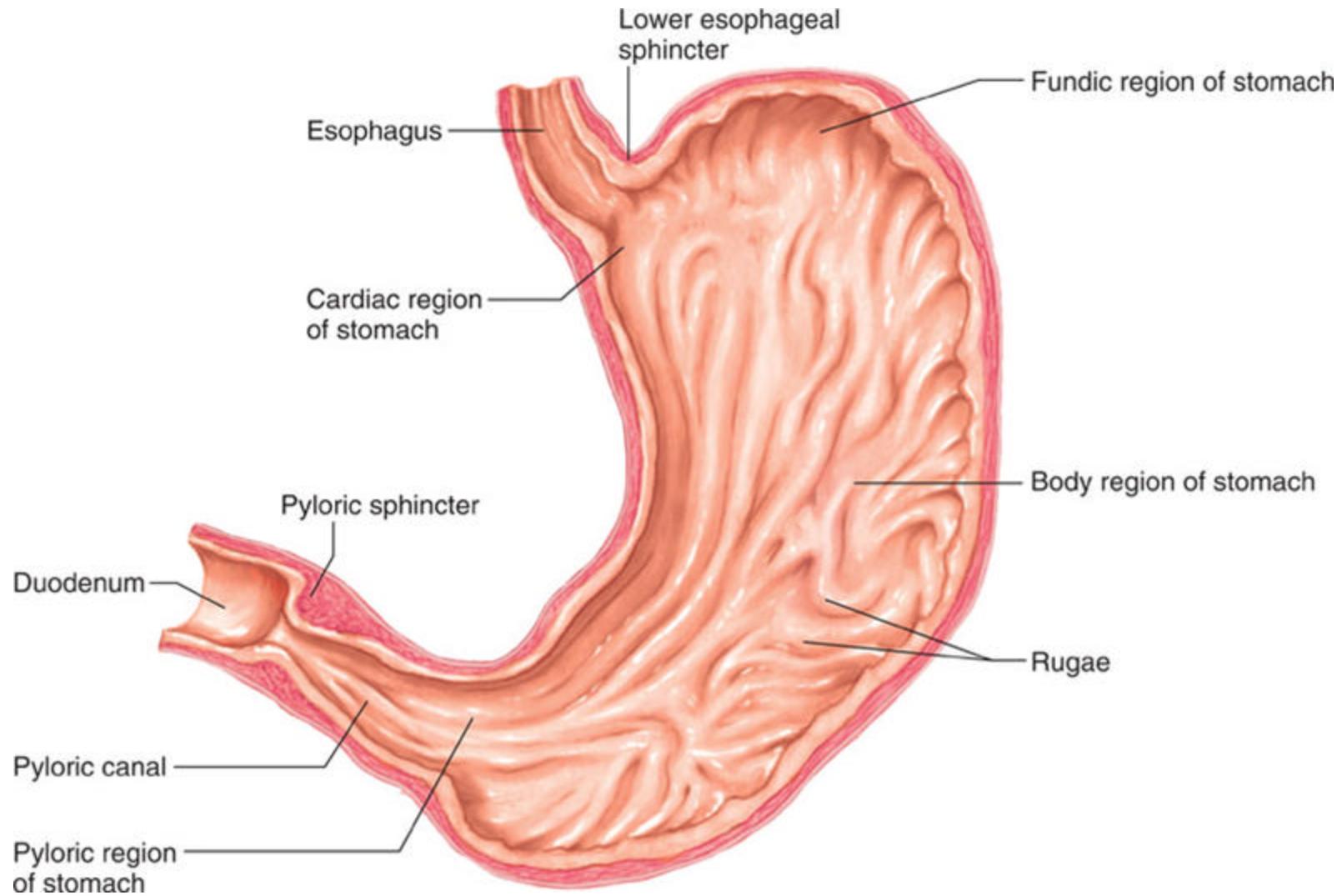
DIENTES



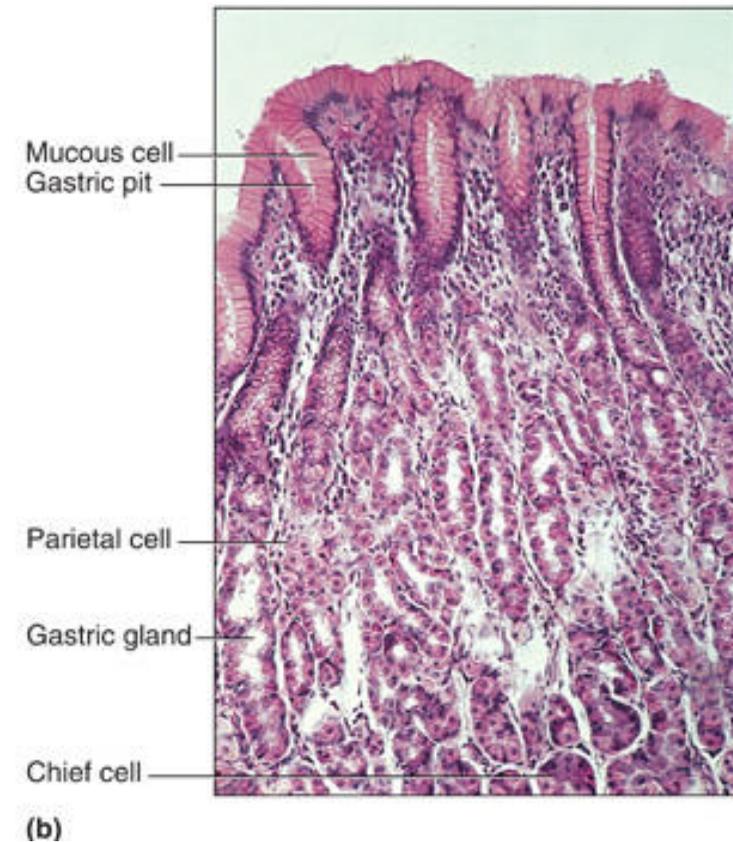
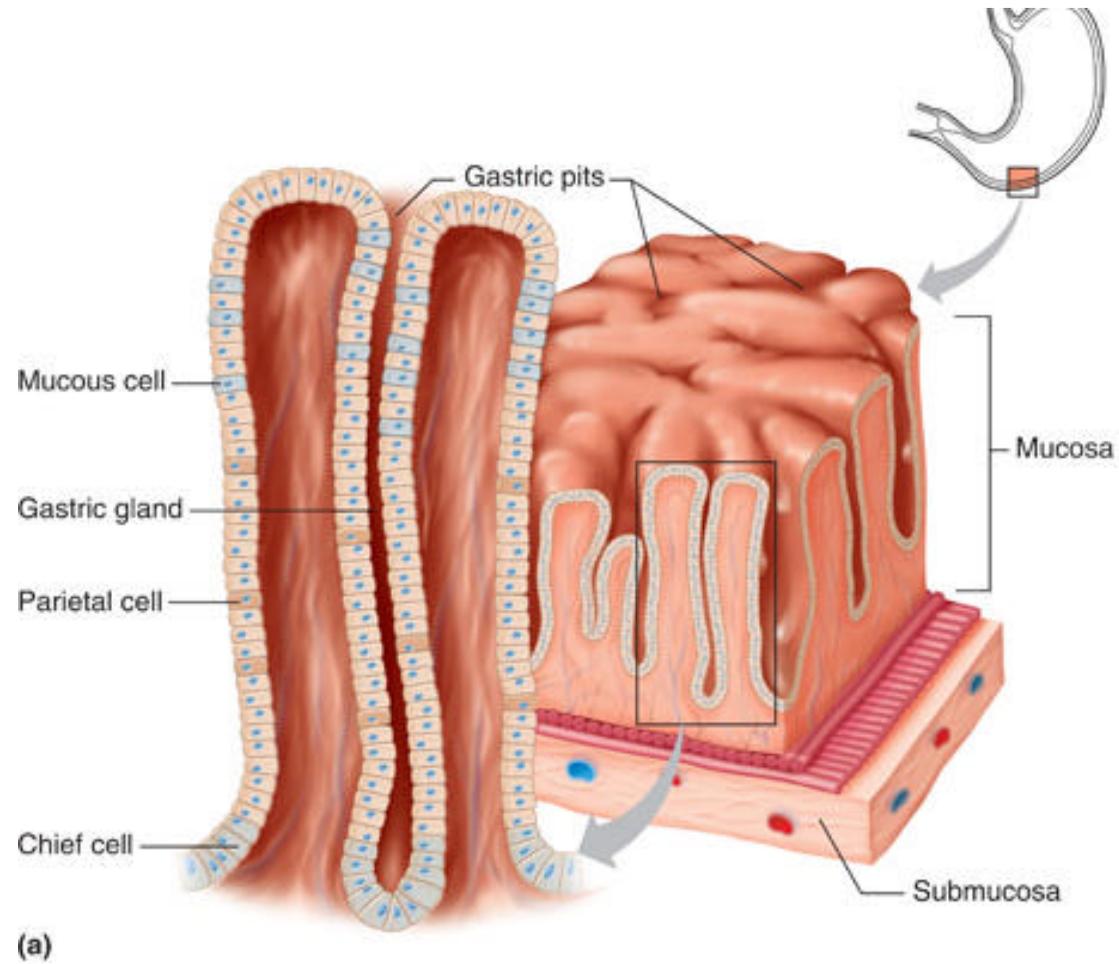
ESTRUCTURA DE LOS DIENTES



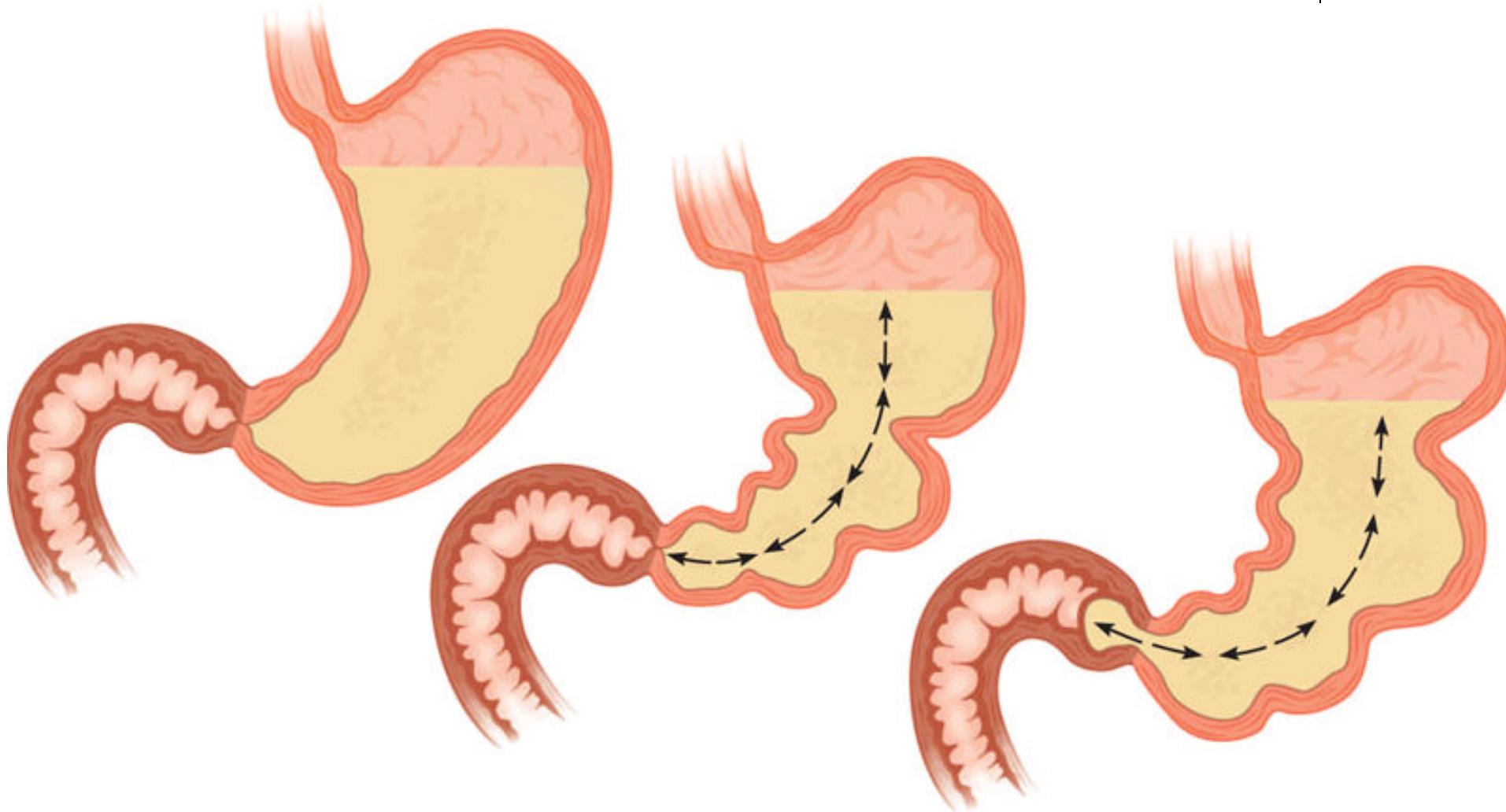
ESTOMAGO



ESTOMAGO



MOTILIDAD GASTRICA



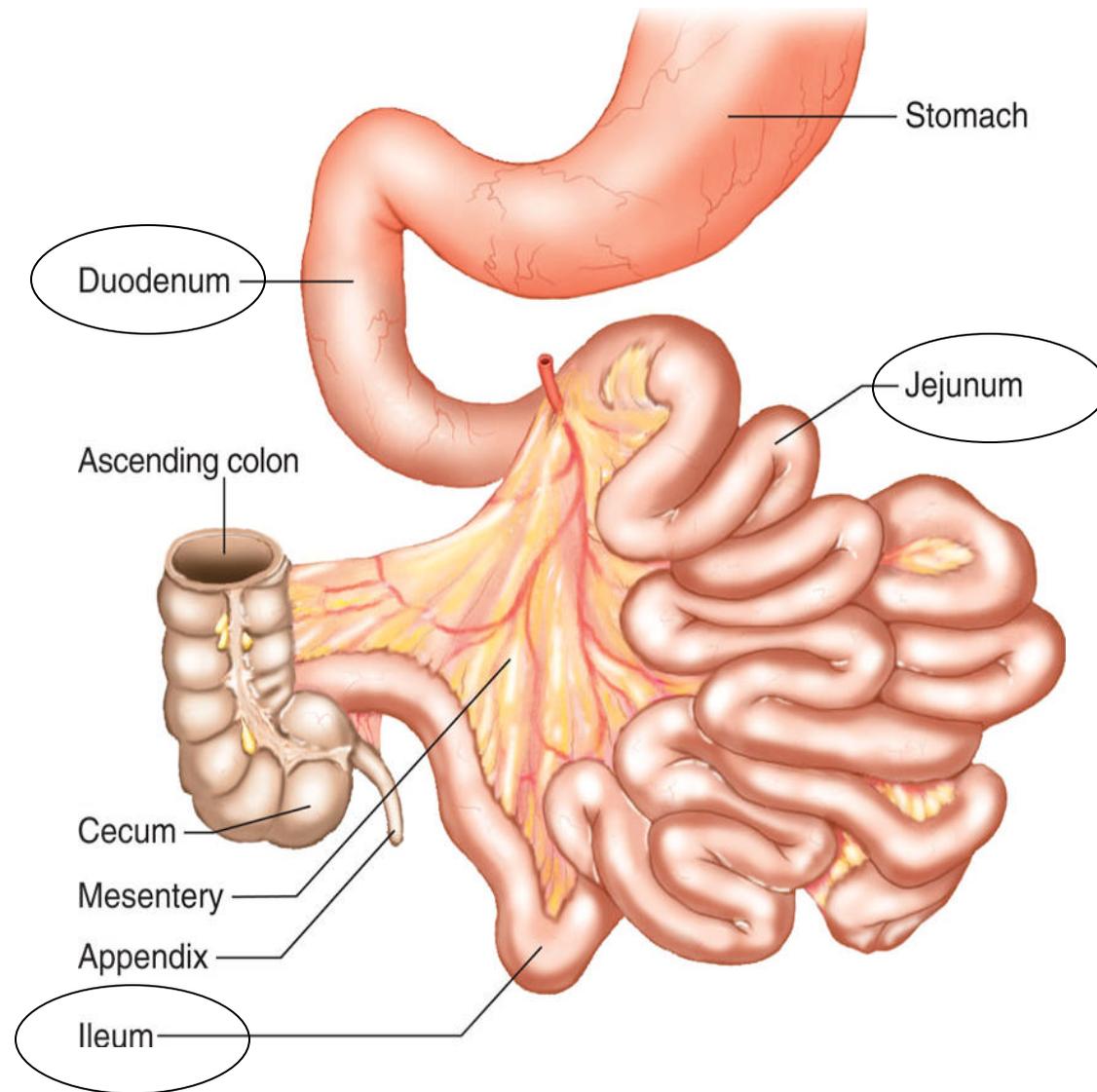
COMPONENTES DEL JUGO GASTRICO



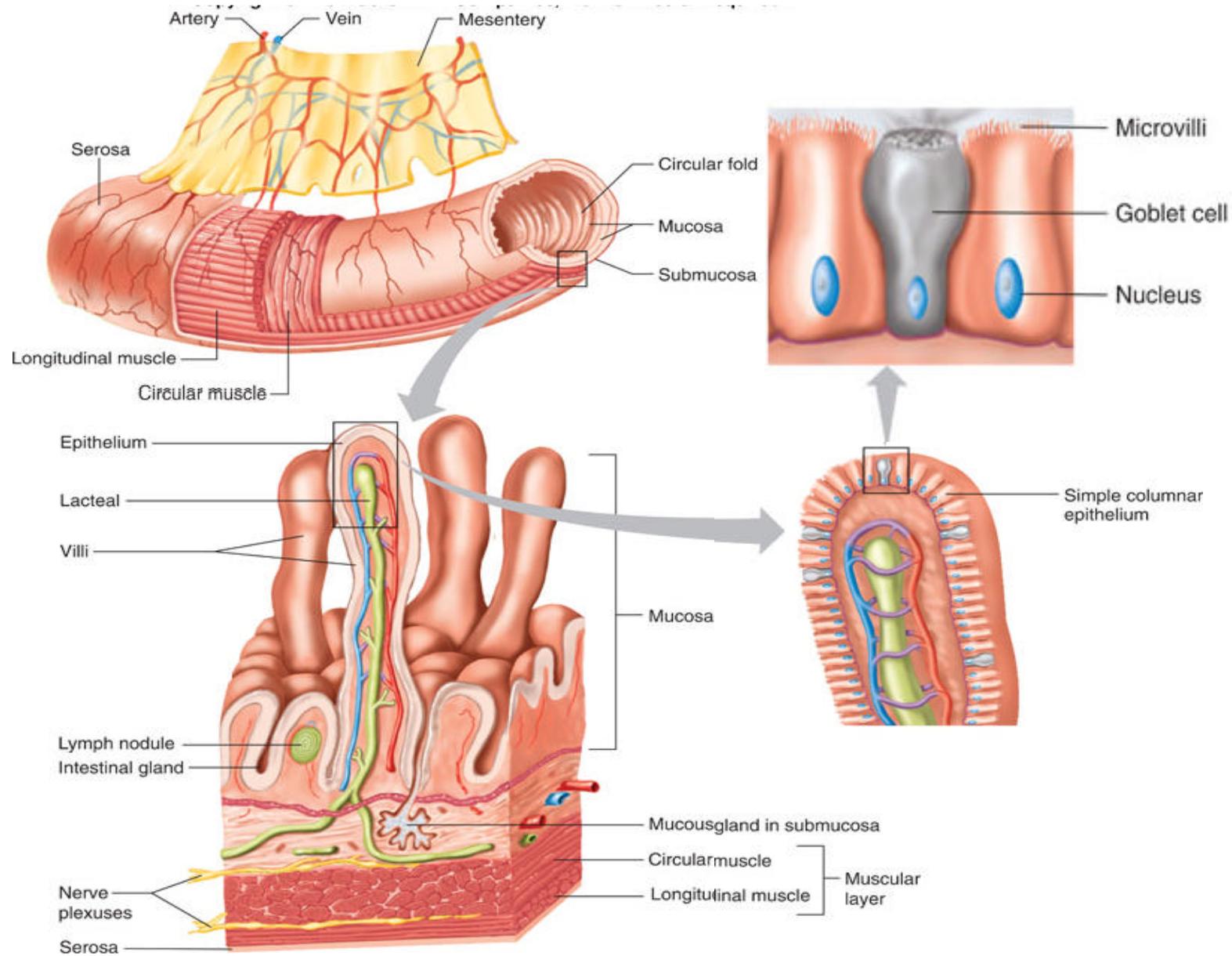
TABLE 15.2 MAJOR COMPONENTS OF GASTRIC JUICE

COMPONENT	SOURCE	FUNCTION
Pepsinogen	Chief cells of the gastric glands	Inactive form of pepsin
Pepsin	Formed from pepsinogen in the presence of hydrochloric acid	A protein-splitting enzyme that digests nearly all types of dietary protein
Hydrochloric acid	Parietal cells of the gastric glands	Provides the acid environment needed for the conversion of pepsinogen into pepsin and for the action of pepsin
Mucus	Goblet cells and mucous glands	Provides a viscous, alkaline protective layer on the inside stomach wall
Intrinsic factor	Parietal cells of the gastric glands	Aids in vitamin B ₁₂ absorption

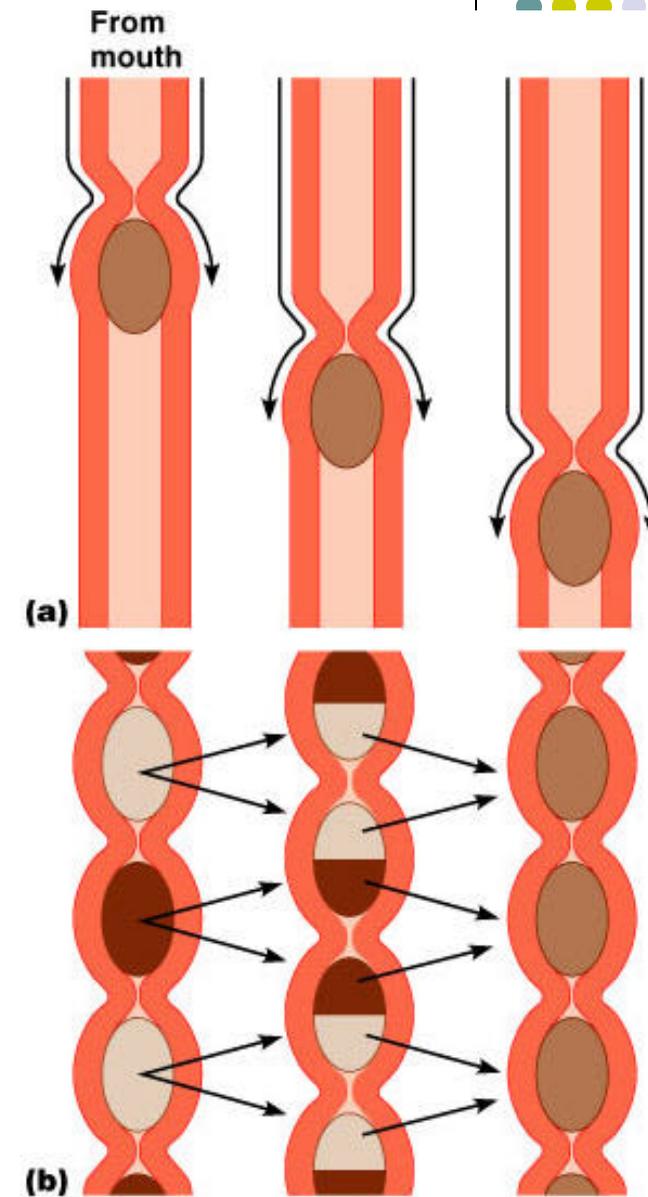
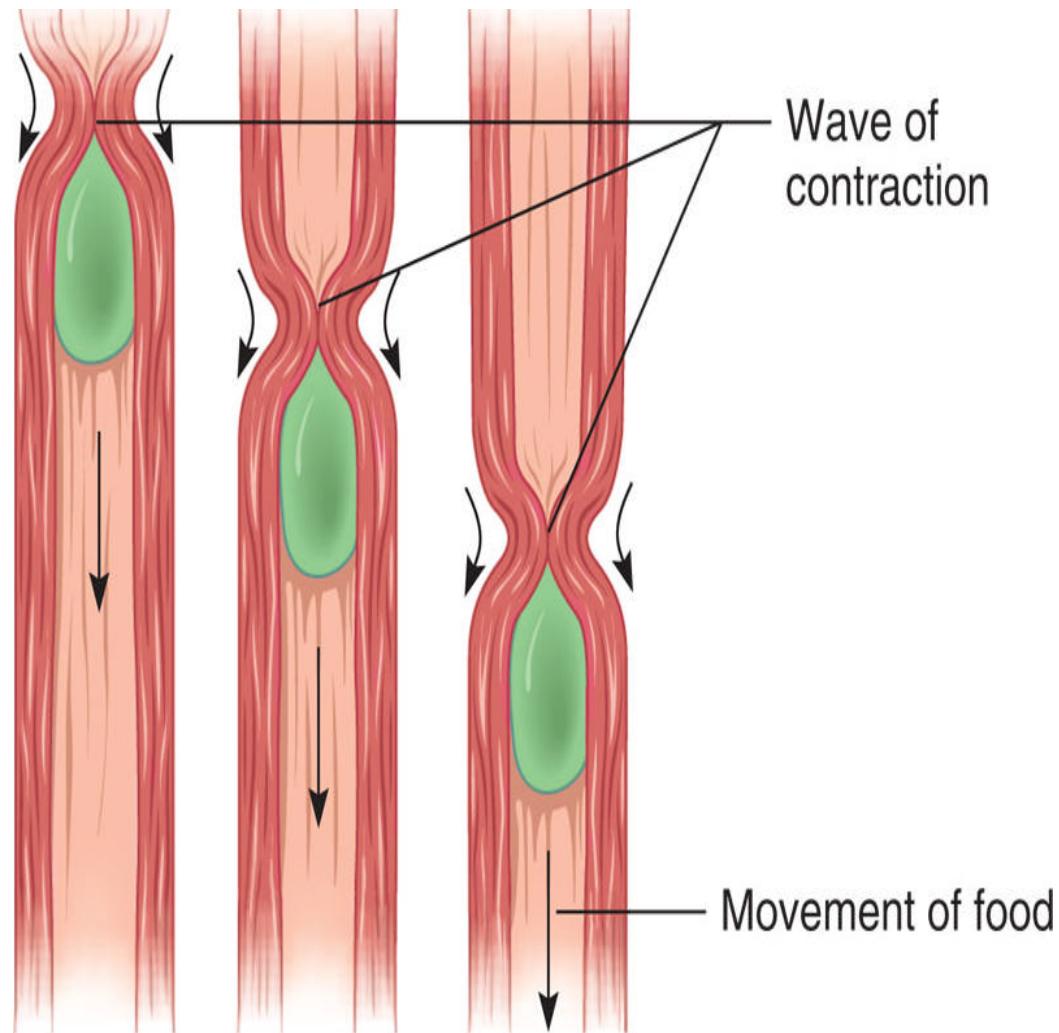
INTESTINO DELGADO



INTESTINO DELGADO

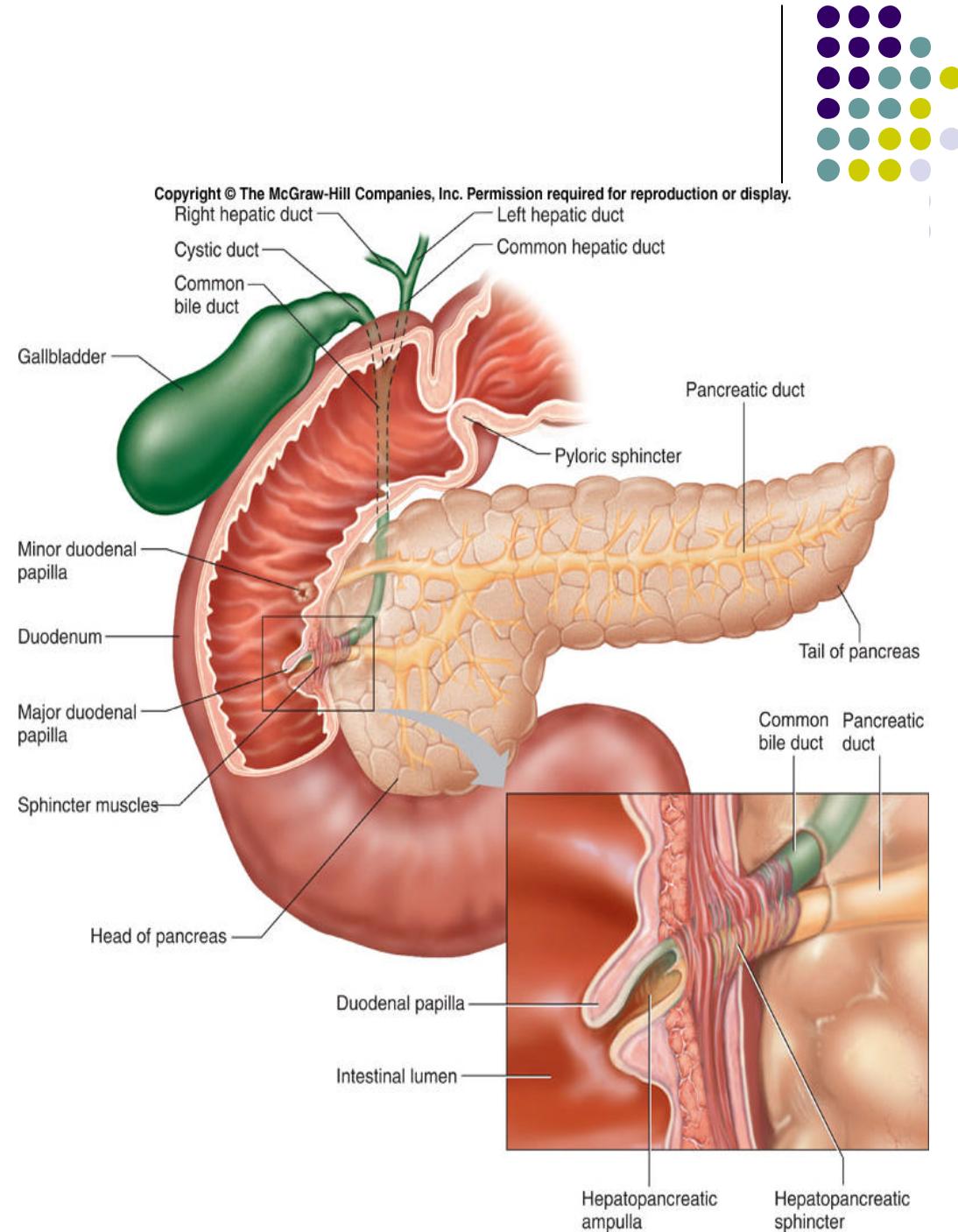


PERISTALSIS Y SEGMENTACION



PANCREAS

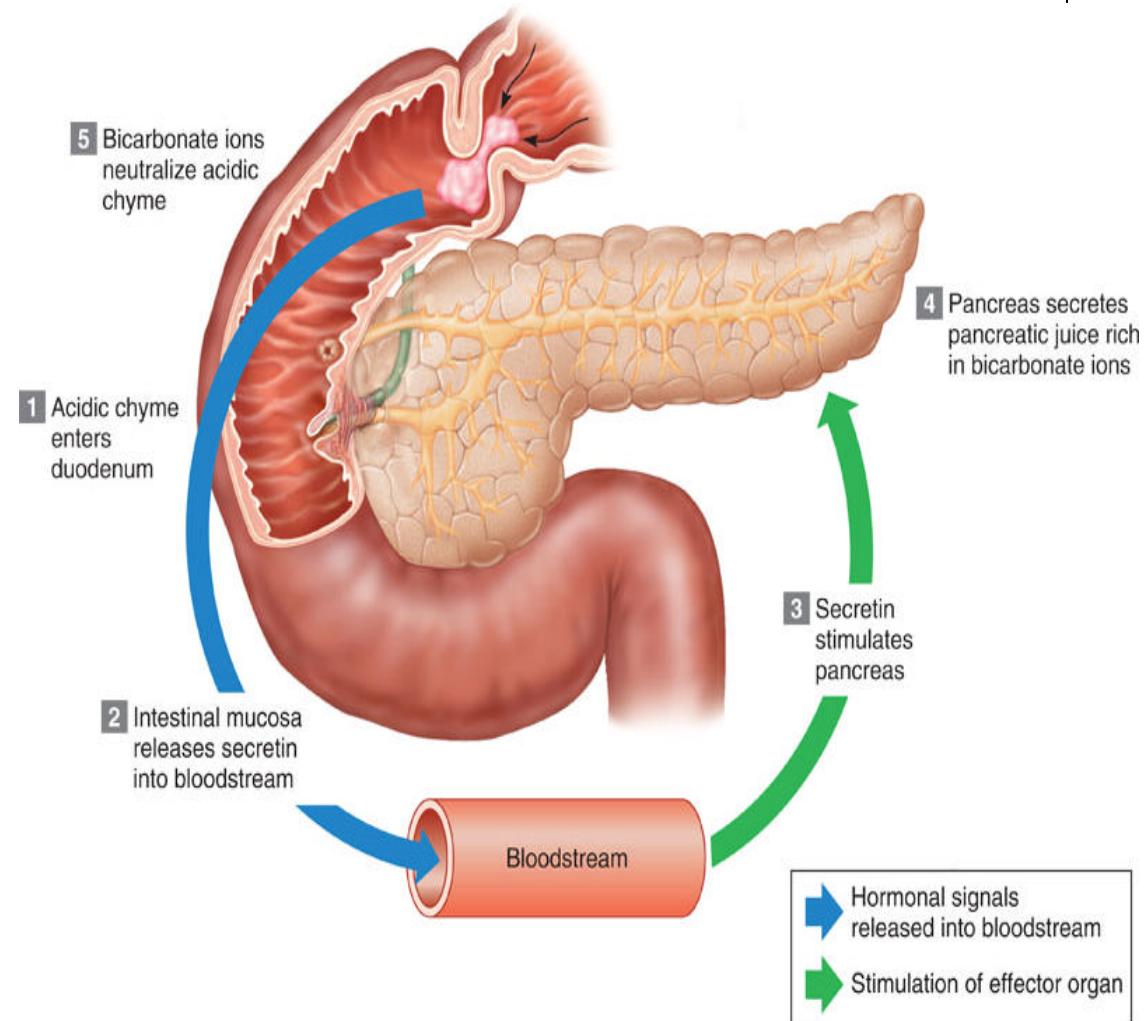
- Jugos pancreaticos
 - Amilasa
 - Lipasa
 - Nucleasas
- Enzimas proteoliticas
 - Tripsina
 - Quimiotripsina
 - carboxipeptidasa



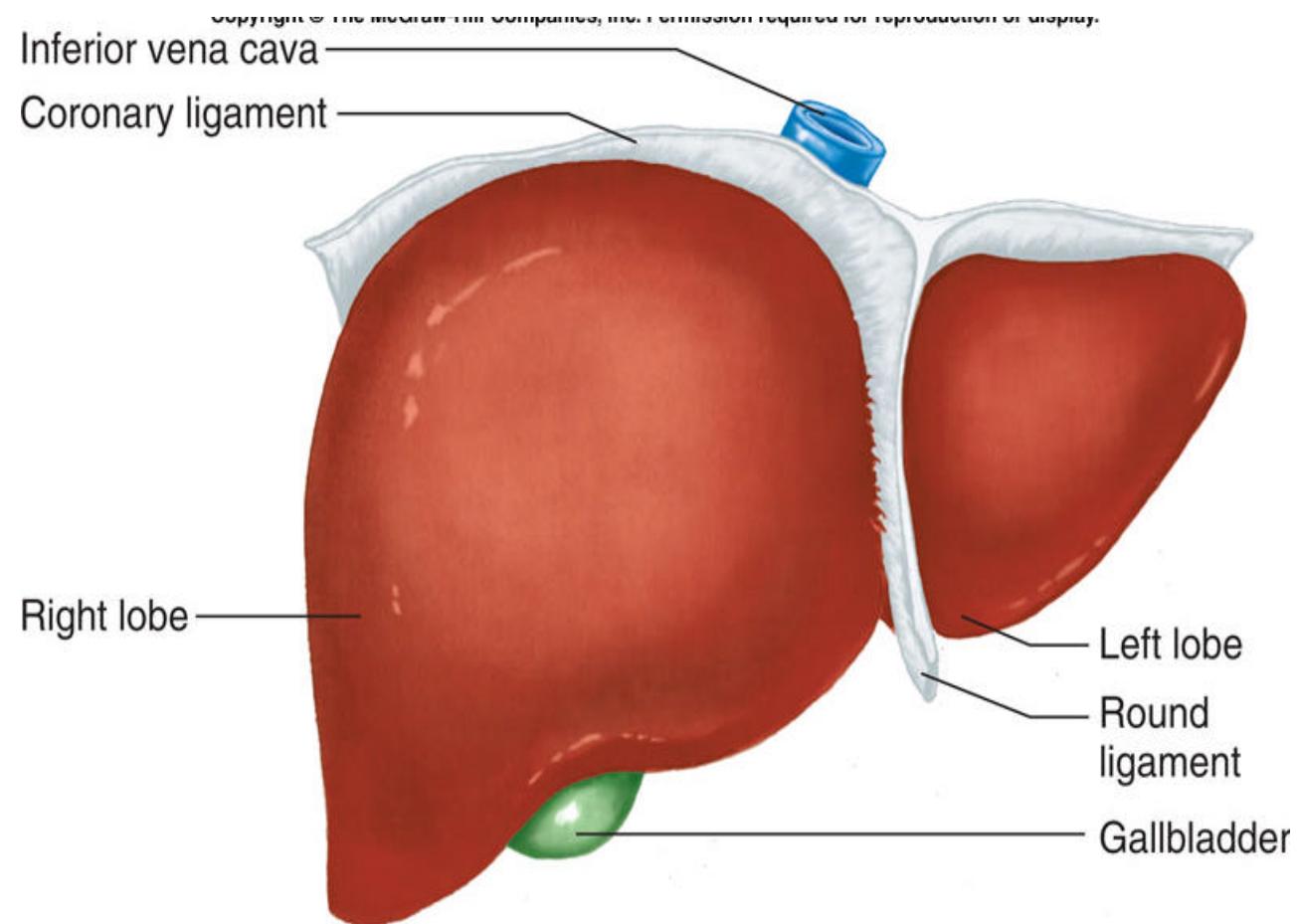
REGULACION DE LA SECRECION PANCREATICA



- Secretina



HIGADO



FUNCIONES DEL HIGADO

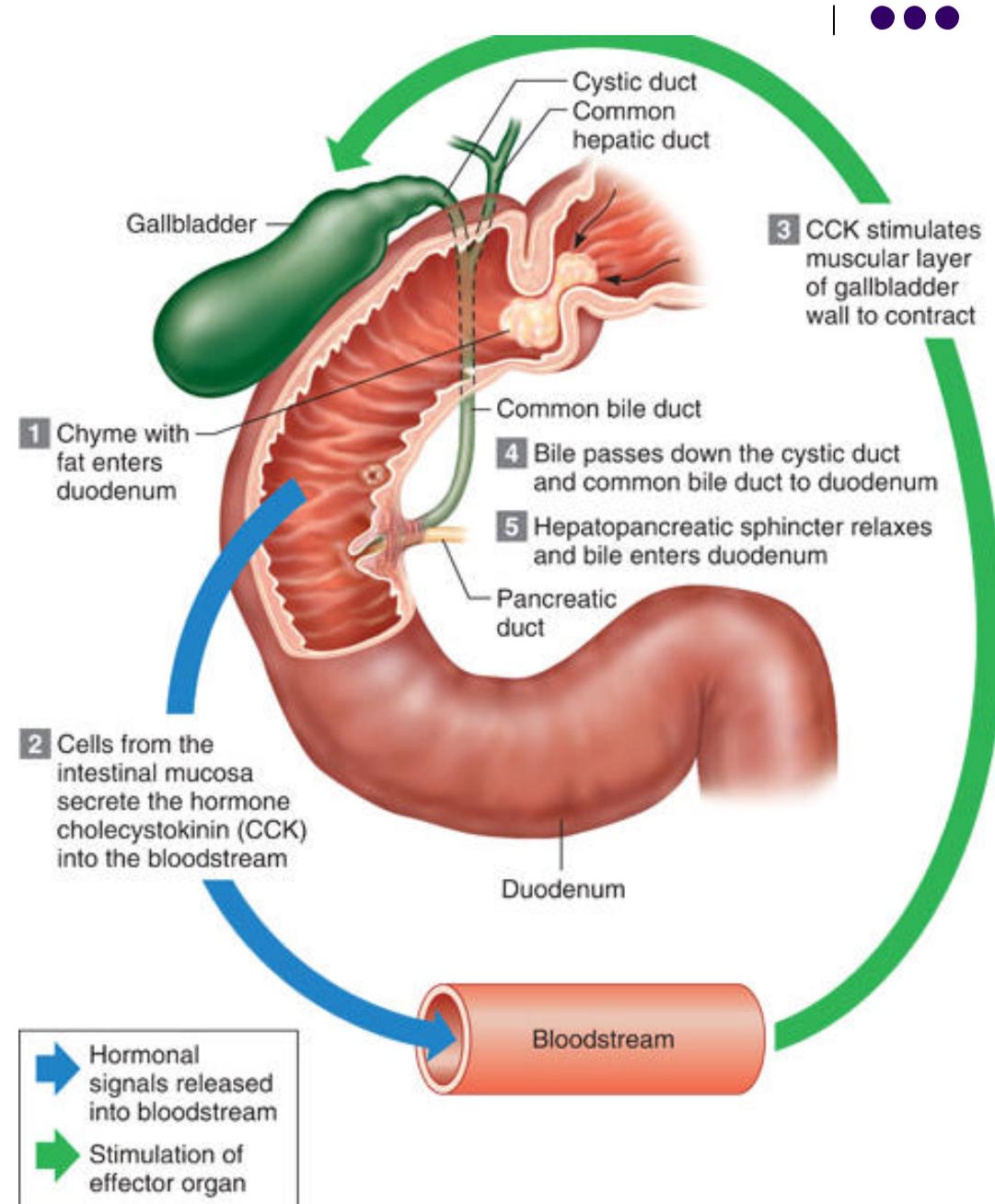


TABLE 15.3 MAJOR FUNCTIONS OF THE LIVER

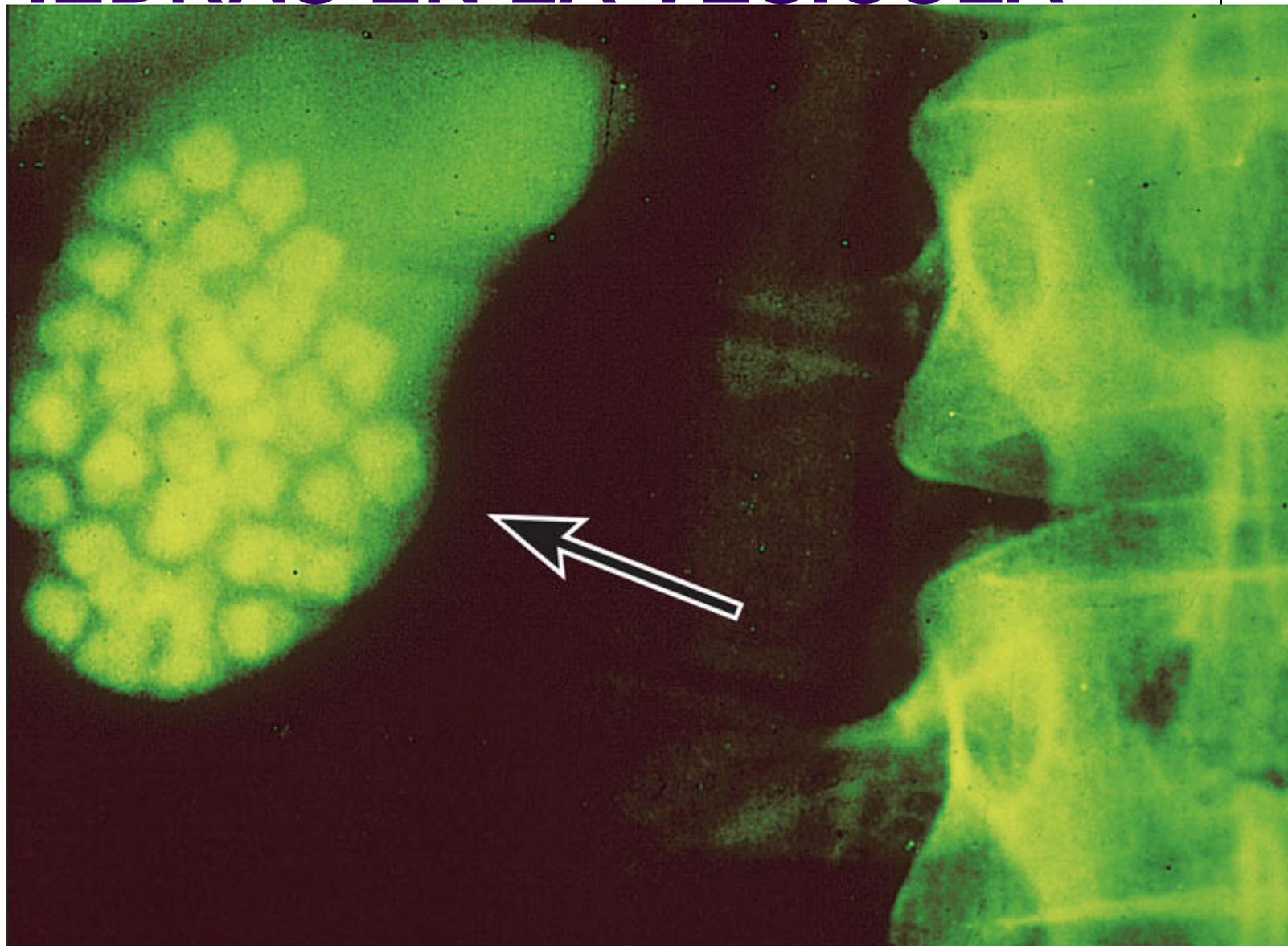
GENERAL FUNCTION	SPECIFIC FUNCTION
Carbohydrate metabolism	Polymerizes glucose to glycogen; breaks down glycogen to glucose; converts non-carbohydrates to glucose
Lipid metabolism	Oxidizes fatty acids; synthesizes lipoproteins, phospholipids, and cholesterol; converts portions of carbohydrate and protein molecules into fats
Protein metabolism	Deaminates amino acids; forms urea; synthesizes plasma proteins; converts certain amino acids to other amino acids
Storage	Stores glycogen, iron, and vitamins A, D, and B ₁₂
Blood filtering	Removes damaged red blood cells and foreign substances by phagocytosis
Detoxification	Removes toxins from blood
Secretion	Secretes bile

VESICULA BILIAR

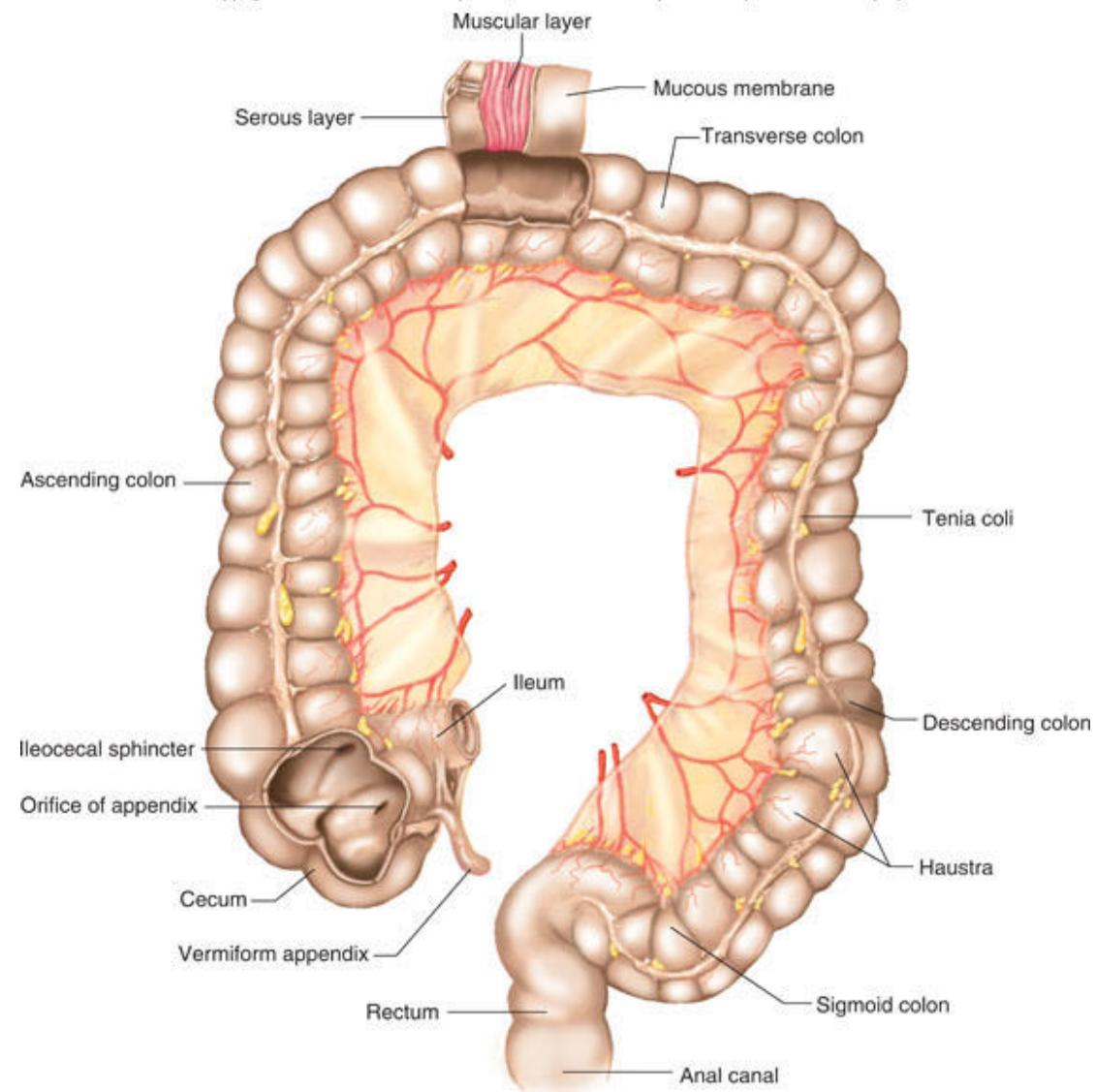
- REGULACION DE LA LIBERACION DE BILIS



PIEDRAS EN LA VESICULA



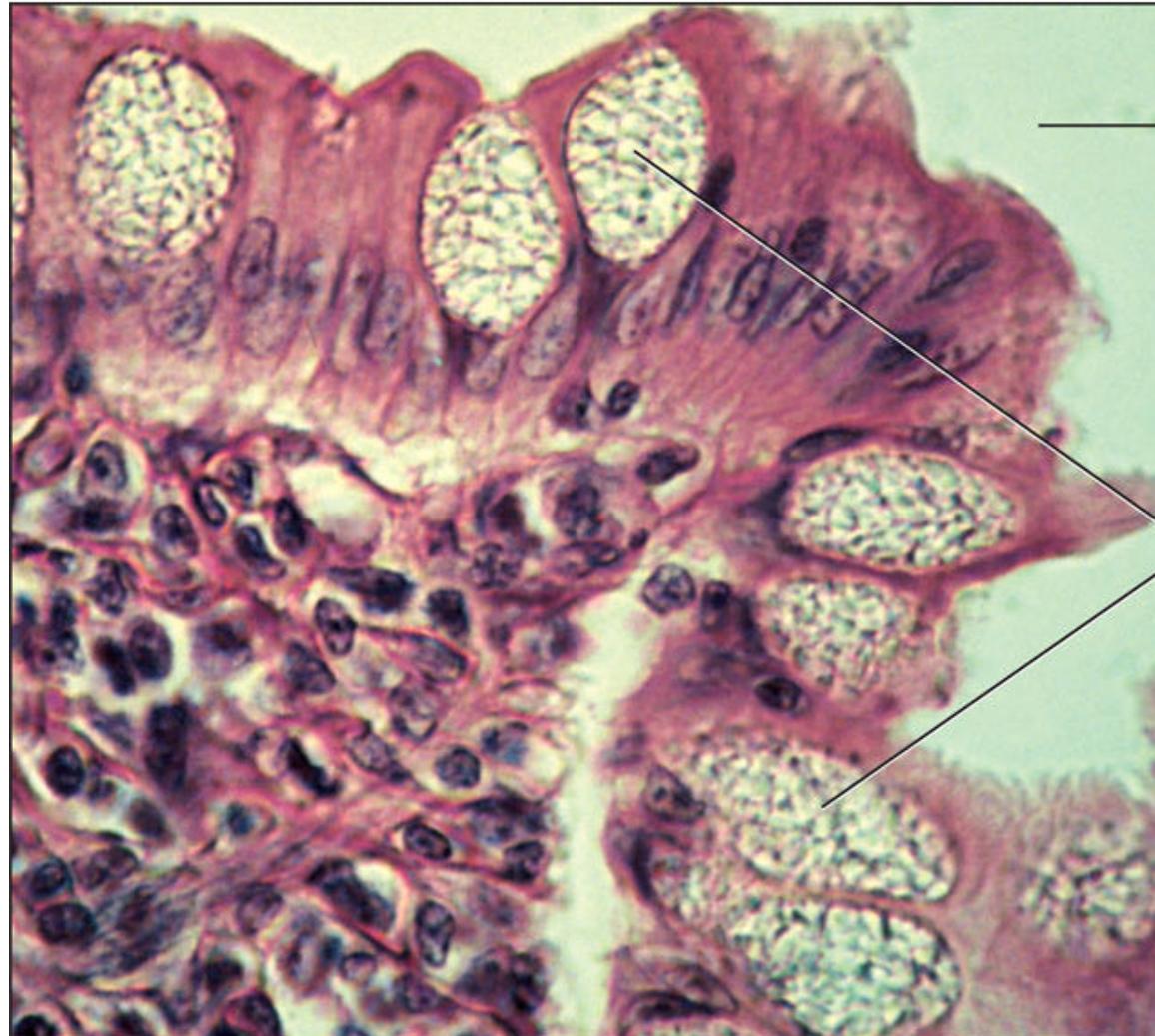
INTESTINO GRUESO



MUCOSA DEL INTESTINO GRUESO



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Lumen of large intestine

Goblet cells

RECTO Y CANAL ANAL

