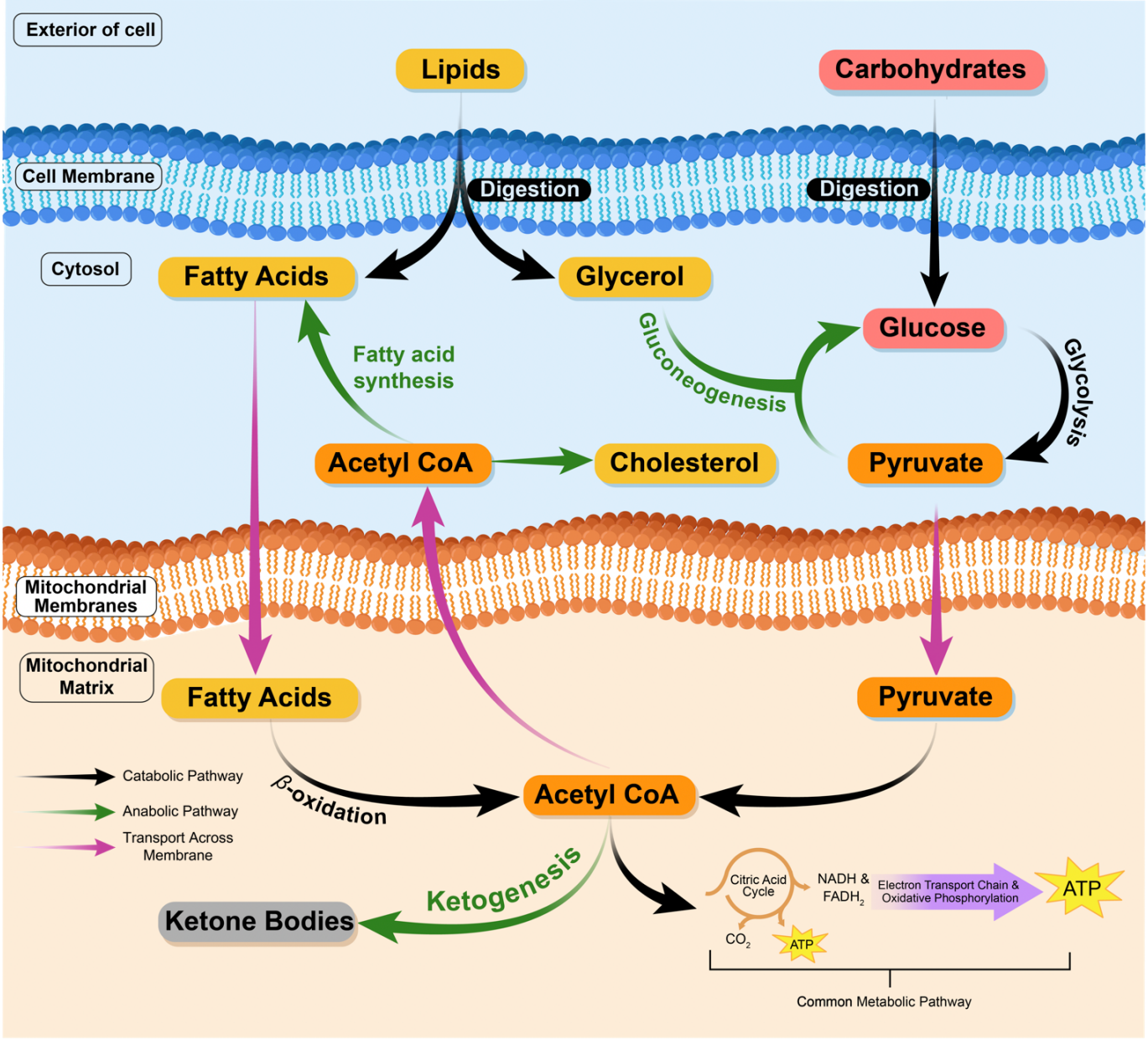
CONCEPT: SUMMARY OF LIPID METABOLISM

- The metabolic pathways of lipid and carbohydrate metabolism are both _____ with one another.
  - □ These different metabolic pathways can be taken to generate _____.



- Acetyl CoA serves as a central metabolite within food catabolism.
  - □ It is an _____ for glucose, glycerol and fatty acid metabolic pathways.
  - □ _____ material for the production of ketone bodies, lipids, and cholesterol.

EXAMPLE: Acetyl CoA cannot be converted from which of the following molecules?

a) Pyruvate b) Maltose c) NADH d) Stearate

CONCEPT: SUMMARY OF LIPID METABOLISM

PRACTICE: Regarding lipid metabolism, match the following terms with β-oxidation (A), Ketogenesis (B) or neither (C).

I. _____ Acetoacetyl CoA

II. _____ Fructose

III. _____ The carnitine shuttle

IV. _____ Acyl CoA dehydrogenase

PRACTICE: Determine which of the following processes occurs in the Mitochondrial Matrix (MM), Cytosol (C) or Exterior of the Cell (X).

I. _____ Glycerol kinase converts glycerol to glycerol-3-phosphate.

II. _____ Hydrolysis of glycogen.

III. _____ $FADH_2$ is oxidized to FAD.

IV. _____ The enzyme aconitase isomerizes citrate to isocitrate.

PRACTICE: Which of the following statements is true?

a) Both FA synthesis and glycolysis occur in the matrix.

b) Oxidation of a secondary alcohol happens during Step 2 of glycerol metabolism.

c) Gluconeogenesis occurs within the mitochondrial membrane.

d) Ketogenesis begins with the decarboxylation reaction between 2 acetyl CoA molecules.