



POLYSACCHARIDES
HEXOSES
PENTOSE
PHOTOSYNTHESIS
LIPID BIOSYNTHESIS
PHOSPHOLIPIDS
ISOPRENOIDS
STEROIDS
PORPHYRINS

AROMATIC AMINO ACIDS
CATECHOLAMINES
PURINES
PYRIMIDINES
AMINO ACIDS

LEGEND

- Carbohydrates: Biosynthesis (solid line), Degradation (dashed line)
- Amino Acids: Biosynthesis (solid line), Degradation (dashed line)
- Lipids: Biosynthesis (solid line), Degradation (dashed line)
- Purines & Pyrimidines: Biosynthesis (solid line), Degradation (dashed line)
- Vitamins, Co-Enzymes & Hormones: Biosynthesis (solid line), Degradation (dashed line)
- Pentose Phosphate Pathway: Biosynthesis (solid line), Degradation (dashed line)
- Photosynthesis Dark Reactions: Biosynthesis (solid line), Degradation (dashed line)

Human Metabolism is identified as far as possible by black arrows
Small numbers refer to the IUBMB Enzyme Commission
The "OXIDATIVE PHOSPHORYLATION" IS A MAJOR SOURCE OF ENERGY (ATP) AND IS LOCATED IN THE MITOCHONDRIAL MEMBRANE. THIS IS NOT SHOWN IN THIS MAP. THE MITOCHONDRIAL MATRIX IS IDENTIFIED BY A LIGHT BLUE BACKGROUND. THE MITOCHONDRIAL OUTER MEMBRANE IS IDENTIFIED BY A LIGHT GREEN BACKGROUND. THE MITOCHONDRIAL INTERMEMBRANE SPACE IS IDENTIFIED BY A LIGHT RED BACKGROUND. THE MITOCHONDRIAL DNA IS IDENTIFIED BY A LIGHT PURPLE BACKGROUND. THE MITOCHONDRIAL RIBOSOMES ARE IDENTIFIED BY A LIGHT ORANGE BACKGROUND. THE MITOCHONDRIAL PROTEIN SYNTHESIS IS IDENTIFIED BY A LIGHT BROWN BACKGROUND. THE MITOCHONDRIAL EXPORT AND IMPORT OF MOLECULES IS IDENTIFIED BY A LIGHT BLUE BACKGROUND. THE MITOCHONDRIAL IMPORT OF MOLECULES IS IDENTIFIED BY A LIGHT GREEN BACKGROUND. THE MITOCHONDRIAL EXPORT OF MOLECULES IS IDENTIFIED BY A LIGHT RED BACKGROUND. THE MITOCHONDRIAL IMPORT OF MOLECULES IS IDENTIFIED BY A LIGHT PURPLE BACKGROUND. THE MITOCHONDRIAL EXPORT OF MOLECULES IS IDENTIFIED BY A LIGHT ORANGE BACKGROUND. THE MITOCHONDRIAL IMPORT OF MOLECULES IS IDENTIFIED BY A LIGHT BROWN BACKGROUND.

Cytoplasm
Cytoplasmic Membrane