

GLOSSARY : CELLULAR RESPIRATION AND MITOCHONDRIA

1. MITOCHONDRIAL ANATOMY (ANATOMIE DE LA MITOCHONDRIE)

English Term	French Term	Definition/Context
Mitochondrion	Mitochondrie	The organelle responsible for ATP production.
Outer membrane	Membrane externe	Permeable membrane containing porins.
Inner membrane	Membrane interne	Impermeable bilayer housing the respiratory chain.
Intermembrane space	Espace intermembranaire	Space where protons (H ⁺) accumulate.
Matrix	Matrice	Internal space containing Krebs cycle enzymes.
Cristae	Crêtes	Folds of the inner membrane to increase surface area.
Porins	Porines	Proteins forming channels in the outer membrane.

2. METABOLIC PATHWAYS (VOIES METABOLIQUES)

English Term	French Term	Definition/Context
Cellular respiration	Respiration cellulaire	Aerobic process of ATP synthesis.
Glycolysis	Glycolyse	Cytoplasmic degradation of glucose into pyruvate.
Anaerobic	Anaérobie	Process occurring without oxygen.
Krebs cycle	Cycle de Krebs	Also called the Citric Acid Cycle.
Decarboxylation	Décarboxylation	Reaction releasing CO ₂ .
Redox reaction	Réaction d'oxydoréduction	Transfer of electrons between molecules.

3. THE RESPIRATORY CHAIN (LA CHAÎNE RESPIRATOIRE)

English Term	French Term	Definition/Context
Electron Transport Chain	Chaîne de transport d'électrons	Series of complexes (I-IV) in the inner membrane.
Reducing power	Pouvoir réducteur	Capability of NADH and FADH ₂ to donate electrons.
Iron-sulfur protein	Protéine fer-soufre (Fe-S)	Electron carrier found in complexes.
Ubiquinone (CoQ)	Ubiquinone (Coenzyme Q)	Lipid-soluble mobile electron carrier.
Cytochrome c	Cytochrome c	Water-soluble mobile protein carrier.
Proton pump	Pompe à protons	Complexes (I, III, IV) that move H ⁺ across the membrane.

4. BIOENERGETICS & INHIBITION (BIOENERGETIQUE ET INHIBITION)

English Term	French Term	Definition/Context
Oxidative phosphorylation	Phosphorylation oxydative	Production of ATP driven by electron transport.
ATP Synthase	ATP Synthase	Complex V; uses proton gradient to make ATP.
Proton-motive force	Force protomotrice	Electrochemical gradient of H ⁺ .
Energy coupling	Couplage énergétique	Linking electron transport to ATP synthesis.
Uncoupler	Découplant	Substance (like DNP) that dissipates the H ⁺ gradient.
Thermogenesis	Thermogénèse	Production of heat instead of ATP.