# Mitochondrial Respiratory Chain Complex Determination

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Mitochondrial respiratory chain complex I (NADH oxidase) and mitochondrial respiratory chain complex II (succinate dehydrogenase) are the main elements of the electron transport chain (ETC). Complex I catalyzes the oxidation of NADH and complex II catalyzes the oxidation of succinic acid to fumaric acid. Subsequently, coenzyme Q forms coenzyme $QH_2$, and finally leads to the decrease of terminal electron receptor $O_2$. Mitochondrial respiratory chain complex III (cytochrome c oxidoreductase) is an essential protein for mitochondrial oxidative phosphorylation. Mitochondrial respiratory chain complex III is the gatekeeper of the mitochondrial respiratory chain and the main source of the third reactive oxygen species. Mitochondrial respiratory chain complex IV (cytochrome c oxidase) is the terminal electron receptor of the mitochondrial electron transport chain. Complex IV converts $O_2$to $H_2O$ through the oxidation of cytochrome c, which is related to the synthesis of mitochondrial cell membrane ATP.

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https://www.mitochondriasci.com/determination-of-mitochondrial-respiratory-chain-complex.html

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