CREATIVE BIOMART®
Assay Kit

COX-SDH Stain Kit

Product Information

Product Overview

Cytochrome c oxidase (COX) is an intrinsic mitochondrial membrane enzyme exhibiting high activity in cells rich in mitochondria, such as cardiomyocytes, renal tubular epithelial cells, gastric parietal cells, and hepatocytes. COX activity is widely used as an indicator of cellular oxidative metabolism and as a mitochondrial marker enzyme.
Succinate dehydrogenase (SDH) is the first enzyme of the succinate oxidase system and is localized in mitochondria. It is a flavoprotein enzyme containing sulfhydryl (–SH) groups essential for activity and participates in the tricarboxylic acid cycle. SDH activity is also commonly used as a mitochondrial marker. Both COX and SDH are sensitive to fixation; therefore, fresh frozen sections are required.
This COX–SDH staining kit enables identification of COX-negative fibers, which may exhibit preserved SDH activity. Since three of the thirteen COX subunits are encoded by mitochondrial DNA, whereas SDH is encoded by nuclear DNA, SDH activity is unaffected by mitochondrial DNA mutations. Ragged red fibers in mitochondrial myopathies are typically COX-negative. Combined COX–SDH staining is therefore useful for screening mitochondrial disorders and muscle fiber typing.

Size

4*50 mL

Storage

Store at -20 °C, protected from light. Shelf life: 6 months.

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