

Product datasheet

Mitochondrial DNA Isolation Kit ab65321

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Overview

Product name	Mitochondrial DNA Isolation Kit
Sample type	Tissue, Adherent cells, Suspension cells
Assay type	Direct
Assay time	3h 00m
Product overview	Mitochondrial DNA Isolation Kit ab65321 provides convenient tools for isolating mtDNA from a variety of cells and tissues in high yield and purity, without contaminations from genomic DNA. The purified mtDNA can be used for a variety of studies such as enzyme manipulations, Southern blotting, cloning, PCR analysis, and amplifications

Please note: One kit is sufficient for 50 samples if Adherent cell or Suspension cells are used and for 25 samples if tissue is used.

Mitochondrial DNA isolation protocol summary:

- collect cells by centrifugation at 600 x g for 5 min and wash with PBS
- centrifuge for 5 min and resuspend pellet in cytosol extraction buffer
- incubate on ice for 10 min
- homogenize in dounce tissue grinder
- centrifuge for 10 min at 700 x g to pellet nuclei and intact cells
- transfer supernatant and centrifuge at 10,000 g for 30 min
- remove supernatant, resuspend pellet in cytosol extraction buffer and centrifuge at 10,000 g for 30 min
- resuspend pellet (mitochondria) and lyse in mitochondrial lysis buffer for 10 min
- add enzyme mix and incubate for 60 min
- add ethanol and incubate for 10 min
- centrifuge for 5 min and retain pellet (mitochondrial DNA)

Notes Mitochondria are semi-autonomous organelles which functions in aging process, apoptosis, anti-HIV drugs, and cancers. Mitochondrial DNA (mtDNA) has a very high mutation rate and the mutations on mtDNA appear to be related to certain diseases such as diabetes, Alzheimer's disease, and muscle disorders. Isolation and quantification of mtDNA are often required to study the relationships between the diseases and mtDNA.

Properties

Storage instructions

Store at -20°C. Please refer to protocols.

Components	Identifier	1 kit
5X Cytosol Extraction Buffer		1 x 20ml
Enzyme Mix (lyophilized)	Red	1 vial
Mitochondrial Lysis Buffer	Purple	1 x 1.8ml
TE Buffer		1 x 1.5ml

Relevance

Mitochondria are semiautonomous organelles which function in the aging process, apoptosis, anti-HIV drugs, and cancers. Mitochondrial DNA (mtDNA) has a very high mutation rate and the mutations on mtDNA appear to be related to certain diseases such as diabetes, Alzheimer's disease, and muscle disorders.

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