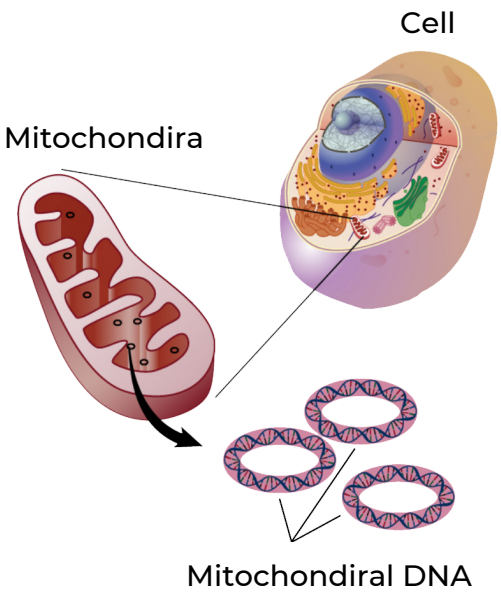
Genetika Science

Whole Mitochondrial DNA Genome Sequencing

A new method for sequencing the mitochondrial genome by using long read technology



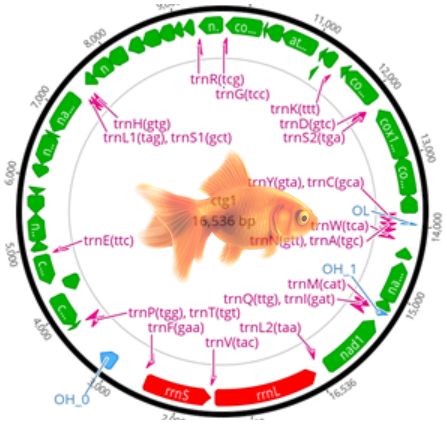
Mitochondrial DNA (mtDNA or mDNA) is the DNA located in mitochondria, cellular organelles within eukaryotic cells that convert chemical energy from food into a form that cells can use, adenosine triphosphate (ATP). Mitochondrial DNA is only a small portion of the DNA in a eukaryotic cell; most of the DNA can be found in the cell nucleus and, in plants and algae, also in plastids such as chloroplasts.

The mitochondrial genome is an independent genetic system in each eukaryotic cell outside the nuclear genome. While most researchers tend to overlook it because of its small size, the mitochondrial genome contains genes that are essential for cellular energetics and survival.

Whole genome sequencing (WGS) has been the dominant sequencing approach to identify genetic variants in recent decades, but most studies focus on variants on the nuclear genome. Whole genome sequencing is also costly and time consuming. Sequencing specifically targeted for mtDNA is commonly used in the diagnostic settings and has lower costs.

Our Services

Genetika Science Indonesia is offering Whole Mitochondrial DNA Genome Sequencing by using long read technology, Oxford Nanopore Technology. Using long read technology is quick and easy to sequence entire mitochondrial genomes.

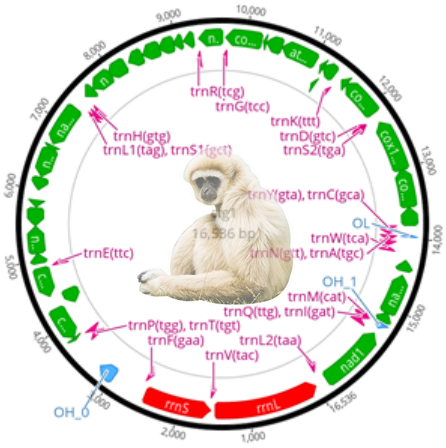


Goldfish

Application

Application of Mitochondrial DNA sequencing:

- Wildlife forensics.
- Species identification purposes.
- Evolutionary biology study.

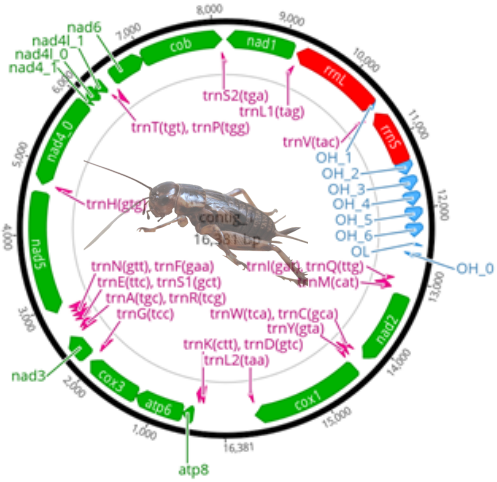


Gibbon

Sample

Researchers just submit raw samples (term and condition apply) or gDNA samples to us. Requirement samples if the samples are gDNA:

- Minimum concentration is 50 ng/uL.
- Minimum volume is 30 uL.
- Undegraded gDNA or at least gDNA with minimum degradation.



Cicada

For further inquiries, please contact us at:

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