

Key knowledge

Genomes, genes and alleles

2.1.3 the role of genomic research since the Human Genome Project, with reference to the sequencing of the genes of many organisms, comparing relatedness between species, determining gene function and genomic applications for the early detection and diagnosis of human diseases.

2.1.3.1. What is the Human Genome Project?

2.1.3.2. How long did the Human Genome Project take to complete?

2.1.3.3. What was the role of the Human Genome Project?

2.1.3.4. What is the question still to be answer in relation to the Human Genome Project?

2.1.3.5. Why is mitochondrial DNA so useful in genetic sequencing?

2.1.3.6. What is comparative genomics and how can it be used by scientists?

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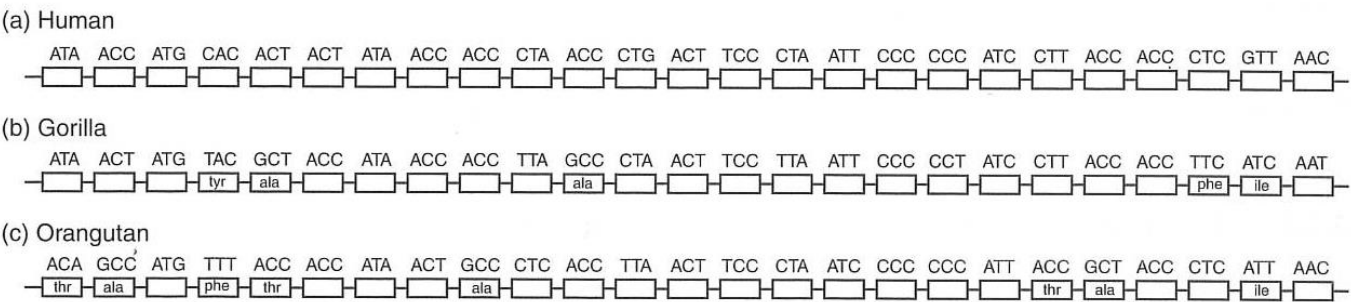
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The diagram shows a comparison of mtDNA from humans, gorillas and orangutans. Only the changed amino acids are labelled.



2.1.3.7. Use the example above to discuss how DNA sequencing and gene sequencing can be used to show relatedness between species.

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2.1.3.8. What is a molecular clock?

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