

Lab E - DNA Isolation & Primer Design

Polymerase chain Reaction (PCR) is a technique that allows scientists to make many copies of DNA from a small sample. In this lab, you will isolate DNA from cheek cells and prepare the sample for PCR. The samples will be amplified and sent out for sequencing for use in the Sequencing Analysis Lab. You will learn about mitochondrial haplogroups and also learn to design primers for PCR.

Concepts:

- Primer design (by hand and using Primer-3)
- Mitochondria and egg-parental lineage
- PCR for DNA amplification
- How primers work 5' to 3'

Skills:

- Proper use of micro-pipetters
- Chelex extraction of DNA from cheek cells
- Use BLAST to check primer uniqueness