

Edexcel A Biology A-Level

Core Practical 14

Use gel electrophoresis to separate DNA fragments of different length.



Gel electrophoresis is used to **separate DNA fragments** of different sizes. In gel electrophoresis, DNA fragments (cut with **restriction endonuclease enzymes**) are loaded into **wells in agarose gel** and a current is applied. DNA has a **negative charge**, so it moves towards the anode, but different DNA fragments of different sizes will move at **different rates** and therefore create **bands at different heights**. This is used as part of DNA profiling.

Note: there are significant risks associated with this practical and the equipment involved is expensive. For these reasons, it is likely you'll use a simulation of this practical instead of the actual process. See the video from Addgene for a detailed explanation and demonstration of the method.

