

FRANKLIN AND BOYER

Rare-Ed: Rare Genomic's Education Campaign

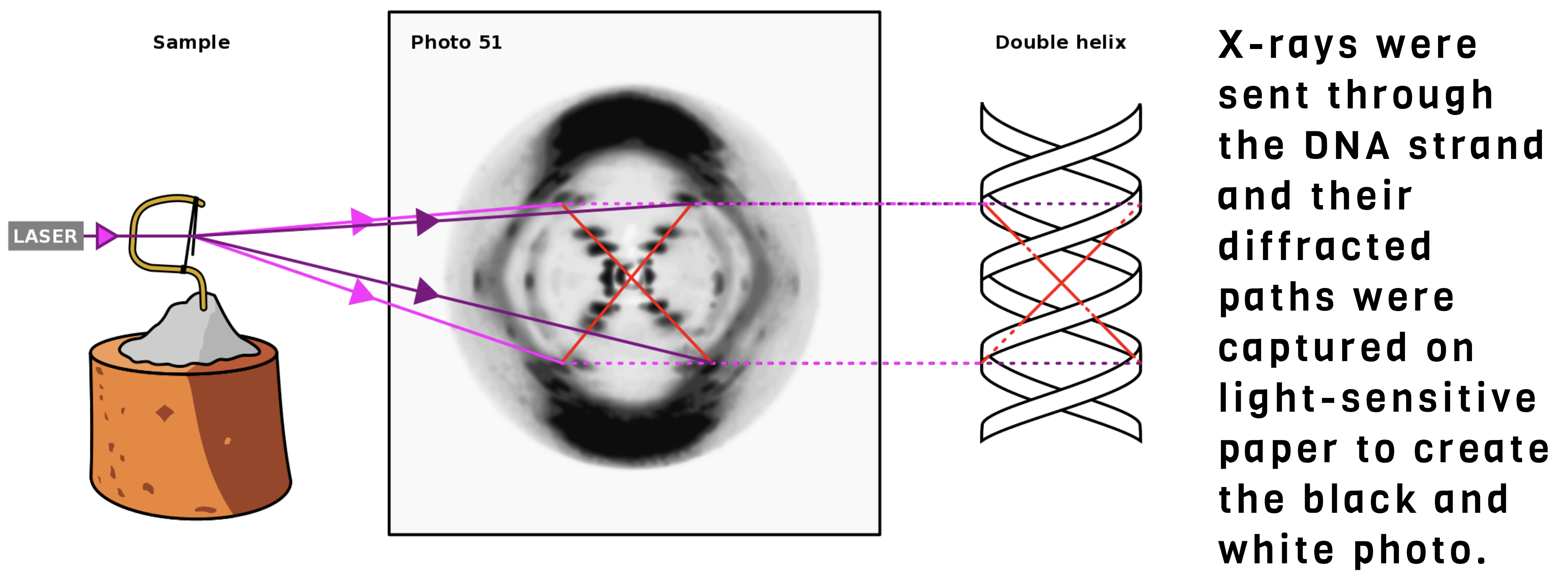
Greatest Contributors to Genetics

1 Rosalind Franklin



Rosalind Franklin made a crucial contribution to genetics by unveiling the double helix structure of DNA.

Franklin perfected her skills in X-Ray Crystallography in Paris, which led her to determining the molecular structures of DNA, RNA, viruses, coal, and graphite. X-Ray diffraction images of DNA revealed their intertwining helical structure and their approximate measurements..



2 Hebert Boyer and Stanley Cohen



In the early 1970s, Boyer and geneticist Stanley Cohen pioneered a new scientific field called recombinant DNA technology through restriction enzymes. These are enzymes produced by bacteria to counter invasion by viral organisms known as bacteriophages.

In 1970 Cohen found a way in which E. coli could be made to acquire a plasmid that conferred resistance to an antibiotic. Together, Boyer and Cohen discovered that an enzyme, Eco RI, can cleave the circular plasmid at a single site. Into the breach an inserted a gene that provided resistance to another antibiotic. Future colonies of E. coli included bacteria that were resistant to both antibiotics. From their discovery, bacteria, which replicate every twenty minutes, could be employed to manufacture the products of genes from higher animals rapidly and in large quantities.

