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Biol 294

October 19, 2020

### The Race for the Double Helix

The Race for the Double Helix is a film based on the true story of four scientist working endlessly to discover the “secret of life.” This film depicts the rivalries between two team of scientist: Rosalind Franklin and Maurice Wilkins and Francis Crick and James D. Watson. Not only were these four-scientist competing against each other, they were also in competition with other scientists in the United Kingdom and overseas. The desperate pursuit of the structure of DNA began when English biophysicist Maurice Wilkins presented an X-ray diffraction image of a DNA sample at a conference in Italy. This put immense pressure on all the scientist in the race to determine the shape of DNA structures. In the end, Francis Crick and James D. Watson won the race by making a replica of DNA in a double helix staircase with steps composed of molecule pairs also known as bases and chains of sugar and phosphate molecules. During this model, Crick and Watson learned that an antiparallel orientation of the two nucleotide chain backbones worked best to orient the base pairs in the center.

Throughout this film, the personalities of the scientist were also demonstrated as well as sexism. Rosalind Franklin was the only woman scientist and had many disagreements with Maurice Wilkins because he seemed to want to control everything. I knew that Rosalind Franklin was the only well-known woman in the race of the double helix and that most of the credit was given to Francis Crick and James D. Watson. I did not know that Maurice Wilkins already had presented an X-ray diffraction image of a DNA sample but just did not know the structure. I also did not know that Maurice Wilkins sought to team up with James D. Watson first and even offered up his sister to Watson for the cause of science.

Francis Crick used pencils to demonstrate that DNA is anti-parallel in his model. The term anti-parallel in DNA means that two molecules are side by side but run in opposite directions. DNA is composed of two strands of nucleotides that are anti-parallel because the head of one strand lies at the tail of the other strand. Each strand has a sugar phosphate backbone but at opposite side of the opposing strand and grows in a 5' to 3' direction opposite ways. Jerry Donahue recommended the hydrogen bond structure which made James Watson want to pair with them.

Works Cited

- Double Helix Notes*. (n.d.). Retrieved from Biology Junction:  
[https://www.biologyjunction.com/double\\_helix\\_notes.htm](https://www.biologyjunction.com/double_helix_notes.htm)
- Jackson, M. (Director). (1987). *The Race for the Double Helix* [Motion Picture].
- Wikapedia. (2020, January 27). *Life Story*. Retrieved from Wikapedia:  
[https://en.wikipedia.org/wiki/Life\\_Story\\_\(film\)](https://en.wikipedia.org/wiki/Life_Story_(film))
- Winning the race for the double helix, James Watson*. (n.d.). Retrieved from DNA Learning Center: <https://dnalc.cshl.edu/view/15455-Winning-the-race-for-the-double-helix-James-Watson.html>