
Curriculum Vitae Prof. Dr. Sir John Cowdery Kendrew

Name: John Cowdery Kendrew
Life Dates: 24 March 1917 - 23 August 1997



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John Cowdery Kendrew was a British chemist. He was a pioneer in molecular biology who investigated the structure of proteins, such as myoglobins, which could be isolated from whale flesh in large quantities. Using the method of isomorphous replacement, Kendrew was able to reveal the structure of myoglobin in 1959.

Kendrew was one of the first researchers to make use of the X-ray crystallography method to identify proteins. He received the Nobel Prize in Chemistry jointly with the Austrian-British chemist Max Ferdinand Perutz for his studies on the structure of globular proteins in 1962.

Academic and Professional Career

From 1935, John Kendrew was educated in chemistry at Trinity College, Cambridge, earning his B.A. of Science in 1939. When the Second World War broke out in the same year, he was initially sent to work on radar. He went on to serve the Royal Air Force and became a scientific adviser to the Allied Air Commander-in-Chief.

From 1946 to 1953, he worked at the Cavendish Laboratory of the University of Cambridge, where he earned his Ph.D. in 1949. There he shared a laboratory with the Austrian scientist Max Perutz, with whom he jointly received the Nobel Prize in Chemistry in 1962. From 1953 to 1974, he was Deputy Director of the Medical Research Board for Molecular Biology at the University of Cambridge.

In 1959, Kendrew established the "Journal of Molecular Biology" and worked as its Editor-in-Chief until his retirement. In 1964, he became a member of the Executive Board of the Weizmann Institute of Science in Rehovot (Israel) and held this position until his death. From 1975 to 1981, he was

Founding Director of the European Molecular Biology Laboratory (EMBL) in Heidelberg. From 1981 until his retirement in 1987, he served as President of St. John's College of the University of Oxford.

1962 Nobel Prize in Chemistry

In 1946, John Kendrew joined the Austrian Max Perutz at the Cavendish Laboratory at the University of Cambridge where Perutz was conducting initial experiments with X-ray crystallography. His focus was on the structure of haemoglobin, while Kendrew investigated a similar protein, myoglobin.

Like Kendrew, Perutz employed x-ray analysis. In 1953, he also made use of the isomorphous replacement method for the first time, which entails adding mercury atoms to a protein molecule to make the diffraction patterns easier to distinguish. Kendrew and Perutz achieved the structural elucidation of both proteins – initially at a basic level, and eventually in more detail. The effort was enormous: They had to evaluate an immense amount of X-ray diagrams. With their work, Kendrew and Perutz made the heavy atom method considerably more refined and effective. In 1962, the scientists jointly received the Nobel Prize in Chemistry for their studies on globular proteins.

Honours and Awarded Memberships

Kendrew received numerous awards for his work, such as the Nobel Prize in Chemistry and the Order of Knight Commander of the British Empire (1962) and the Royal Medal of the Royal Society (1965). He was knighted in 1974.

Kendrew was also a member of numerous scientific academies, such as the Royal Society in London (1960), the American Society of Biological Chemists and the American Society for Biochemistry and Molecular Biology (1962), the German National Academy of Sciences Leopoldina (1965), as well as the Cambridge Philosophical Society.

About John Cowdery Kendrew

John Kendrew was born on 24 March 1917 as the son of Wilfred George Kendrew and his wife Evelyn May Graham Sandberg in Oxford. His father was a climatologist and dean at the University of Oxford, his mother was an art historian. After his parents divorced in 1921 John grew up with his father in Oxford.

Kendrew attended Dragon School in Oxford from 1923 to 1930. In 1936, he went on to Clifton College in Bristol, a boarding school that specialised in natural science. This is where Kendrew discovered his interest in the field. By the time he was 17, he was already a scholar at Trinity College in Cambridge. J.J. Thompson, the scientist who discovered electrons, was on the committee for his entrance exam.

In 1948, Kendrew married Elizabeth Gorvin Jarvie. The couple did not have any children and divorced in 1956. In 1962, Kendrew bought a house in Cambridge (Old Guildhall, Linton) where he lived until

his death. The artist Ruth Harris, his neighbour, became his companion and girlfriend. Kendrew was known for his love of music, but he also had an interest in photography.

He died on 23 August 1997 in Cambridge. Since 2007, the European Molecular Biology Laboratory (EMBL) in Heidelberg has been bestowing the John Kendrew Award along with 5,000 euros prize money to young scientists in his honour.