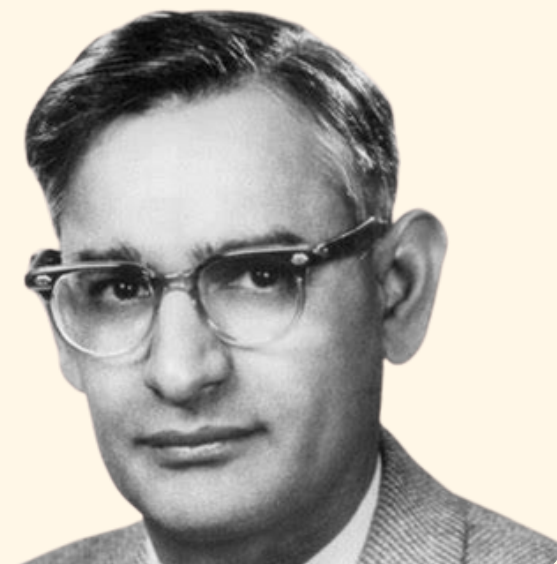


Dr. Har Gobind Khorana

Biochemist, Padma Vibhushan, Nobel Prize in Physiology or Medicine



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Have you ever wondered how life works at the tiniest level? What makes our bodies function the way they do? The answer lies in DNA and genes, which act like an instruction manual for life. One brilliant scientist, Har Gobind Khorana, helped decode this manual and changed the world of genetics forever!

Early Life and Education

Har Gobind Khorana was born on January 9, 1922, in a small village in Raipur, Punjab (now in Pakistan). His family was poor, but his father strongly believed in education. Khorana and his siblings studied under a tree because their village had no school! However, his hard work and brilliance earned him scholarships, leading him to study at Punjab University and later at the University of Liverpool in England, where he earned a Ph.D. in Chemistry.

Groundbreaking Discoveries in Genetics

Dr. Khorana made one of the most important discoveries in biology: *How the genetic code works*. His research explained how DNA tells cells to make proteins, which are essential for life. In simple terms, he cracked the code of life!

Scientists knew that DNA had four chemical letters (A, T, G, C). Khorana discovered how these letters form three-letter "words" called codons, which instruct cells to create specific proteins. His research helped scientists read and write genetic information, leading to advances in medicine and biotechnology.

For this incredible work, he won the Nobel Prize in Physiology or Medicine in 1968, along with two other scientists, Marshall Nirenberg and Robert Holley.

Legacy and Impact

Khorana's discoveries led to major advancements, including:

- ✓ Genetic Engineering – Scientists can now modify genes to cure diseases.
- ✓ Biotechnology – His research paved the way for producing *Insulin* and other important medicines.
- ✓ DNA Research – His work helped scientists understand and edit DNA, leading to discoveries like gene therapy.

Dr. Khorana was not just a brilliant scientist, he was also a great teacher who inspired young minds. Even though he passed away in 2011, his legacy lives on in modern medicine and genetic research.