

## Who is Har Gobind Khorana? The Man Who Cracked the Ultimate Code



[sg\_popup id="59" event="onload"]Today's Google Doodle is celebrating the late Indian American biochemist, Har Gobind Khorana, on what would have been his 96<sup>th</sup> birthday. His contribution to genetics includes research that showed how the order of nucleotides in nucleic acids, which carry the genetic code of the cell, control the cell's synthesis of proteins. This research won him and his colleagues, Marshall W. Nirenberg and Robert W. Holley, the 1968 Nobel Prize for Physiology or Medicine. The same year, Khorana and Nirenberg were also awarded the Louisa Gross Horwitz Prize from Columbia University.

Khorana was born the youngest of five children in 1922 in a small village of Raipur, which was a part of British-held India—now eastern Pakistan. His father, an agricultural taxation clerk, insisted that all the children learn to read and write, which was a rarity in their small rural village.

In his book, *Chemical Biology, Selected Papers of HG Khorana*, Khorana wrote, "Although poor, my father was dedicated to educating his children and we were practically the only literate family in the village inhabited by about 100 people." He continues to describe how his first four years of education were provided under a tree—the only "school" in the village.

However, that determination led to academic scholarships that helped Khorana make his way to England where he studied at the University of Liverpool in organic chemistry and earned a doctorate in 1948.

Khorana spent a postdoctoral year (1948-1949) at the Eidgenössische Technische Hochschule in Zurich with Professor Vladimir Prelog. The collaboration with Professor

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Prelog vastly molded his thought and philosophy towards science, work, and effort.

His eventual Nobel Prize-winning research took him all over the world, starting in England, then Switzerland, Canada, and eventually the United States, where he became a citizen in 1966.

Khorana's research led to the discovery that the nucleotides in DNA spell out a code that determines which amino acids to produce. The amino acids, in turn, form proteins, and that simple process turns the code in our genes into every physical aspect of who we are and how our bodies work. This led to Khorana becoming the first scientist to chemically synthesize oligonucleotides—the world first synthetic gene—a yeast RNA.

His professional life included many accolades other than the Nobel Prize, such as, National Medal of Science (1987), Co-director of the Institute for Enzyme Research, Conrad A. Elvehjem Professor of Life Sciences at University of Wisconsin-Madison (1962), MIT's Alfred P. Sloan Professor of Biology and Chemistry, and was a member of the Board of Scientific Governors at The Scripps Research Institute.

In 2007, the University of Wisconsin-Madison, The Government of India (DBT Department of Biotechnology), and the Indo-US Science and Technology Forum jointly created the Khorana Program, whose mission is to build a seamless community of scientists, industrialists, and social entrepreneurs in the United States and India.

Thanks to Khorana and his colleagues' achievements in genetic engineering directly attribute to today's advancements and the advancement of the genetic language. Khorana was able to crack a code many did not even know existed.

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### Summary



### Article Name

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### Description

Google Doodle is celebrating the late biochemist, Har Gobind Khorana, on what would have been his 96th birthday for his contributions to genetics.