



Distinguished Lecture Series

May 18, 2011, 10:30 AM

Auditorium, Samsung Library, Sungkyunkwan University, Suwon

Beyond Genes (유전자를 넘어서)

Professor Roger D. Kornberg

Brief Bio

Roger David Kornberg (born April 24, 1947(1947-04-24)) is an American biochemist and professor of structural biology at Stanford University School of Medicine. Kornberg was awarded the Nobel Prize in Chemistry in 2006 for his studies of the process by which genetic information from DNA is copied to RNA, "the molecular basis of eukaryotic transcription."

Abstract

The Nobel Prize in Chemistry for 2006 is awarded to Roger Kornberg for his fundamental studies of the molecular basis of eukaryotic transcription. Transcription is the process in a cell in which the genetic information stored in DNA is activated by the synthesis of complementary mRNA by enzymes called RNA polymerases. Eventually, the mRNA is translated by ribosomes into functional cell proteins. Transcription is one of the most central processes of life, and is controlled by a sophisticated and complex regulatory system. The current needs for proteins of different kinds in the cell, determine when the regulatory system triggers the activation of specific genes. Kornberg has made breakthrough progress in the molecular understanding of transcription and its regulation in eukaryotic cells. His combination of advanced biochemical techniques with structural determinations has enabled the atomic level reconstruction of RNA polymerase from yeast in isolation as well as in a number of functionally relevant complexes with template DNA, product mRNA, substrate nucleotides and regulatory proteins.

Department of Energy Science, SKKU