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Günter Blobel Wins 1999 Nobel Prize for Physiology or Medicine

Günter Blobel, a Howard Hughes Medical Institute investigator at The Rockefeller University, has won the 1999 Nobel Prize for Physiology or Medicine.

Blobel, 63, was awarded the prize for his discovery that "proteins have intrinsic signals that govern their transport and localization in the cell," the Karolinska Institute of Sweden said in its citation.

"Günter made one of the most important discoveries in modern biology," said Purnell W. Choppin, M.D., HHMI's president. "A cell may have more than a billion protein molecules, all of which need to travel to a specific location. Through a historic series of experiments, Günter revealed that each protein has its own 'molecular bar code,' which the cell reads and then guides the protein to the correct location."

Choppin, who headed Rockefeller's laboratory of virology before joining HHMI in 1985, added that "I have known Günter for more than 30 years and could not be more delighted to see him receive this honor. He is not only one of the great scientists of our time, but also a wonderful colleague and mentor of young scientists."

Blobel and his colleagues explained how the cell's protein distribution system operates. They found sequences at the end of each protein that direct the proteins to specific locations. Special receptors on the surfaces of membranes read those signals and allow the appropriate proteins either to pass through or to lodge within the membrane.

In its citation, the Karolinska Institute said "the principles discovered and described by Günter Blobel turned out to be universal, operating similarly in yeast, plant, and animal cells. A number of human hereditary diseases are caused by errors in these signals and transport mechanisms. Blobel's research has also contributed to the development of a more effective use of cells as "protein factories" for the production of important drugs."

Additional information about Blobel's research is available on the HHMI Web site at www.hhmi.org and from the Karolinska Institute at www.nobel.se.

Blobel, who became an HHMI investigator in 1986, joins five other current HHMI investigators have won the Nobel Prize: Thomas Cech, Johann Deisenhofer, Daniel Nathans, Susumu Tonegawa and Eric Wieschaus (who became an HHMI investigator after winning the prize). Edwin Krebs, now retired, also received the prize.

Founded in 1953, HHMI is one of the world's largest philanthropies. It is a medical research organization whose own scientists work in HHMI laboratories at medical schools, universities and other research institutions across the United States. These investigators are HHMI employees and serve as faculty members at their host institutions, with which the Institute has entered into long-term scientific collaborations. The Rockefeller University is among 71 of these host institutions.