

# RANDY WAYNE SCHEKMAN



**Randy Wayne Schekman is an American biochemist and cell biologist who contributed to the discovery of the genetic basis of vesicle transport in cells.**

For his insight into the genetic mechanisms underlying vesicle transport, he was awarded the 2013 Nobel Prize for Physiology or Medicine, which he shared with American biochemist and cell biologist James E. Rothman and German American biochemist Thomas C. Südhof.

## ACADEMIC AND PROFESSIONAL CAREER

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After completing a bachelor's degree in molecular biology at the University of California, Los Angeles, Schekman attended Stanford University, where he performed his graduate research in the laboratory of American biochemist and physician Arthur Kornberg. Schekman earned a doctorate in biochemistry in 1974. After completing his postdoctoral studies, he became an assistant professor at the University of California, Berkeley, where he later received a professorship in molecular and cell biology.

At Berkeley, Schekman began investigating networks of intracellular membranes associated with the vesicle transport of proteins in the yeast *Saccharomyces cerevisiae*. With the aid of others in his laboratory, he screened yeast for mutations that blocked the secretion of certain enzymes from cells. The work led to the discovery of membrane fusion regulator proteins encoded by SEC genes. The regulator encoded by SEC1 was later found to interact with a protein known as SNAP, which had been discovered by Rothman to have important functions in vesicle membrane trafficking. In subsequent work Schekman and his colleagues discovered that nearly two dozen genes play a role in vesicle transport. They characterized the function of each gene's protein and elucidated the sequence in which the proteins act to effect transport. Schekman's work also provided insight into mechanisms of vesicle budding and protein transport from the endoplasmic reticulum.

Schekman was the recipient of the 1996 Gairdner Foundation International Award (with Rothman) and the 2002 Albert Lasker Basic Medical Research Award (with Rothman). He was elected a member of the National Academy of Sciences in 1992 and in 2000 became a fellow of the American Academy of Arts and Sciences.

## AWARDS AND HONORS

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- 1992 Member of the National Academy of Sciences
  - 1996 Gairdner International Award
  - 2000 Member of the American Academy of Arts and Sciences
  - 2002 Albert Lasker Basic Medical Research Award
  - 2002 The Louisa Gross Horwitz Prize
  - 2008 Member of the American Philosophical Society
  - 2010 Massry Prize
  - 2013 Nobel Prize in Physiology or Medicine
  - 2013 Foreign Member of the Royal Society
  - 2017 Golden Plate Award of the American Academy of Achievement.
- Member of the Selection Committee of the Shaw Prize