John Robert Vane—British Pharmacologist and Nobel Laureate

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The British pharmacologist John Robert Vane shared the 1982 Nobel Prize in physiology or medicine with Swedish scientists Sune K. Bergström (1916-2004) and Bengt I. Samuelsson (1934-) for their discoveries concerning prostaglandins and related biologically active substances. The 3 laureates isolated, identified, and analyzed prostaglandins (biochemical compounds that influence blood pressure, body temperature, allergic reactions, and other physiologic phenomena in mammals). Vane discovered that aspirin inhibits the formation of prostaglandins associated with pain, fever, and inflammation, thus providing a physiologic rationale for the effectiveness of aspirin.

Vane was born on March 29, 1927, in Tardebigg, Worcestershire, in west central England. He was the youngest of 3 children. He first attended the local state school and then entered the King Edward VI High School in a suburb of Birmingham (Worcestershire). After receiving his secondary education, he enrolled at the University of Birmingham in 1944 and received a BSc degree in 1946.

After receiving his baccalaureate, Vane became a research fellow in Professor Harold Burn's pharmacology laboratory at Oxford University (England), where he spent 2 years (1946-1948). He was awarded a BSc degree in pharmacology in 1948. In that same year, he became a research assistant in the Department of Pharmacology at Sheffield University in northern England (about 70 miles northeast of Birmingham), after which he returned to Oxford University to pursue a doctoral degree. A fellowship from the Royal Society of London in 1951 enabled Vane to complete his graduate studies in 1953, when he was awarded his DPhil degree from Oxford University.

In 1953, Vane joined the faculty of Yale University in New Haven, Connecticut, first as an instructor, then as an assistant professor in pharmacology. In 1955, he returned to England, where he spent the next 6 years (1955-1961) as a senior lecturer in pharmacology at the Institute of Basic Medical Sciences of the Royal College of Surgeons in London. From 1961 to 1965, he was a reader in pharmacology and, from 1966 to 1973, professor of experimental pharmacology.

During his time at the Royal College of Surgeons, Vane developed a cascade superfusion bioassay (a technique that allowed him to measure the biologic effects of several substances simultaneously in parallel test systems). Using this system, Vane and his colleagues studied a group of hormone-like natural compounds called *prostaglandins*. One prostaglandin in particular, prostacyclin, affects blood platelets so that they form clots. The discovery of prostacyclin and the elucidation of the mechanism of aspirin activity by Vane opened up new areas of study in the cause and prevention of myocardial infarction.

In 1973, Vane was appointed director of research and development at the Wellcome Laboratories of the Wellcome Foundation in London and served until 1985. In 1986, he left the Wellcome Foundation when he was appointed to the Board of Directors of St. Bartholomew's Hospital Medical College in London.

Vane received many honors and awards besides the Nobel Prize. These include the Albert Lasker Basic Medical Research Award (1977), the Baly Medal of the Royal College of Physicians (1977), the Ciba Geigy Drew Award (1980), the Peter Debye Prize (1980), the Dale Medal of the Society for Endocrinology (1981), and the Royal Medal (1989). Vane was knighted by Queen Elizabeth II (1926-). Sir John R. Vane died on November 19, 2004. Micronesia issued a stamp (Scott No. 469f) in 2001 honoring him as a Nobel laureate.