Bernard Leonard Horecker, best known for his contributions to elucidating the pentose phosphate pathway, died on Oct. 9, 2010. He was president of the American Society for Biochemistry and Molecular Biology in 1968.

Horecker was born in Chicago in 1914. He began his training in enzymology in 1936 as a graduate student at the University of Chicago in the laboratory of T. R. Hogness, searching for an enzyme that would catalyze the reduction of cytochrome c by reduced NADP.

After earning his doctoral degree, Horecker got a job at the National Institutes of Health in Frederick S. Brackett’s laboratory in the Division of Industrial Hygiene. As part of the war effort, he was assigned the task of developing a method to determine the carbon monoxide hemoglobin content of the blood of Navy pilots returning from combat missions.

When the war ended, Horecker remained at the NIH and returned to research in enzymology. He began to study the reduction of cytochrome c by the succinic dehydrogenase system, which led to a collaboration with Arthur Kornberg in which the two studied the effects of cyanide on the succinic dehydrogenase system.

Two years later, Kornberg invited Horecker and Leon Heppel to join him in setting up the new Section on Enzymes in the Laboratory of Physiology at the NIH. Their section eventually became part of the new Experimental Biology and Medicine Institute and was later renamed the National Institute of Arthritis and Metabolic Diseases.

Horecker and Kornberg collaborated again, this time on the isolation of NAD (DPN) and NADP (TPN). Horecker also collaborated with Heppel on the isolation of xanthine oxidase from milk, which unexpectedly reduced cytochrome c only in the presence of oxygen, an observation that eventually led to a widely used assay for the detection of the superoxide anion.

Horecker’s research interests turned to enzymes involved in the oxidation of 6-phosphogluconate, and he demonstrated that this pathway generated ribulose 5-phosphate. He played a key role in the elucidation of the pentose phosphate pathway, which included the discovery of the enzymes transketolase, transaldolase and pentose phosphate 3-epimerase and the identification of sedoheptulose 7-phosphate and erythrose 4-phosphate. His laboratory also was the first to prepare ribulose bisphosphate and ribulose bisphosphate carboxylase.

In 1958, Horecker assumed the microbiology chair at New York University School of Medicine, and in 1963, he moved to Albert Einstein College of Medicine as chairman of the newly formed department of molecular biology. In 1972, he moved to the Roche Institute of Molecular Biology. Eventually, he became dean of the Weill Cornell Graduate School of Medical Sciences as well as associate dean for research and sponsored programs and professor emeritus of biochemistry at Weill Cornell Medical College.

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