

Catherine Verfaillie—Stem Cell Researcher

Marc A. Shampo, PhD; Robert A. Kyle, MD; and David P. Steensma, MD

Born in Ypres, Belgium, in 1957, Catherine Verfaillie became a star hurdler and high jumper as a high school student. After she won the Junior National Pentathlon in Belgium, she planned to become a gym teacher and to train for the Olympics. Unfortunately, she sustained a serious knee injury, which ended her athletic career. She then decided to study medicine instead.

She graduated with an MD degree *summa cum laude* from Catholic University of Leuven, Belgium, in 1982. Graduation was followed by a residency in internal medicine and a fellowship in hematology, both at the University of Leuven. In 1987, Dr Verfaillie became a postdoctoral research fellow at the University of Minnesota, Minneapolis, in the laboratory of Dr Phillip McGlave. Although she had planned to spend only a few months in Minnesota, followed by 6 months at the Fred Hutchinson Center in Seattle, her work was so engaging that she stayed for almost 20 years. She joined the faculty of the University of Minnesota in 1991 and advanced to full professor in 1998. In 1996 she became director of the University's Stem Cell Biology Program.

Dr Verfaillie held the Anderson Chair in Stem Cell Biology; the Tulloch Chair in Stem Cell Biology,

Genetics and Genomics; and the McKnight Presidential Chair in Stem Cell Biology, all at the University of Minnesota. In 2000 she was named one of the nation's 10 leading innovators in science and technology by *US News & World Report*.

During her postdoctoral training, Dr Verfaillie became interested in the role of the bone marrow stromal microenvironment in the regulation of normal hematopoietic stem cell differentiation. She developed fluorescence-activated cell sorting methods to select and enrich benign cells in chronic myelogenous leukemia, and she studied the role of deregulation in integrin function in the proliferation and survival of leukemic progenitors. This work led to her studies on mesenchymal stem cells. She identified multipotent adult progenitor cells that could be cultured from animals and humans to differentiate into mesodermal cell types. These cells did not produce tumors but differentiated appropriately into hematopoietic cells as well as epithelial cells of other organs.

In 2005, Dr Verfaillie returned to the University of Leuven and became head of the Stancel Instituut te Leuven. She was honored on a stamp (Scott No. 1998g) issued by Belgium in 2004.

From the Mayo Clinic, Rochester, MN (M.A.S., R.A.K.); and Dana-Farber Cancer Institute, Boston, MA (D.P.S.).

