

Robert F. Furchgott and his heritage: endothelial vasomotor control

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*Was du ererbt von Deinen Vätern hast, erwirb es, um
es zu besitzen
The fathers' gifts that thee endow, diligence only will
fully bestow*

Goethe, Faust I, Nacht

This Special Issue on “Endothelial vasomotor control” would be unthinkable without the seminal work of Robert F Furchgott, a heritage that has triggered a huge progress in our understanding of vascular biology. It has revealed completely new targets, in biology in general and cardiovascular pharmacology in particular, and has guided us into the understanding of unexpected mechanisms of

signal transduction. We dedicate this issue of Pflügers Archiv to him.



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Robert F. Furchgott was born in Charleston, SC, USA. He graduated in Chemistry from the University of North Carolina at Chapel Hill and obtained a Ph.D. in biochemistry at Northwestern University. From 1940 to 1956, he was a Faculty member of Cornell University and on that of Washington University. In 1956, he became professor and chair of the Department of Pharmacology at what became the State University of New York Downstate Medical Center in Brooklyn (NY, USA), where he worked from 1956 to 1988. From 1989 to 2004, Dr Furchgott was professor of Pharmacology at the University of Miami. In 1978, he discovered a “factor” in endothelial cells that relaxes blood vessels (published in Nature 1980 [3]) and was called endothelium-derived relaxing factor. This factor was later on determined as nitrogen monoxide, which is now recognized as an important mediator not only in cardiovascular physiology but

also in general as a transmitter in many signaling cascades [1, 2]. His pivotal discoveries were recognized with the Albert Lasker Award for Basic Medical Research in 1996 and the Nobel Prize for Physiology and Medicine in 1998. Robert F. Furchgott passed away on May 19, 2009 (for more details use the links http://en.wikipedia.org/wiki/Robert_F_Furchgott, http://nobelprize.org/nobel_prizes/medicine/laureates/1998/furchgott-lecture.pdf, and http://nobelprize.org/nobel_prizes/medicine/laureates/1998/furchgott-autobio.html (and see 4–6)).

With this Special Issue, the Editors and all contributors wish to honor Dr. Furchgott. The readers will realize that the concepts inherited from his work have evolved and expanded into a major area of science. World leaders in the field have contributed to this Special Issue with articles which cover the state of the art and future aspects of the following topics:

Endothelium-derived nitric oxide
 Endothelium-derived prostanoids
 Endothelium-dependent hyperpolarizations

Endothelium-dependent contractions
 Endothelial dysfunction

The Editors are grateful to all contributors and hope that this Special Issue will find the scientific response worthy to what we have “inherited” from Robert F. Furchgott.

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