

VU Research Portal

Homocysteine as a Risk Factor for the Development of Cardiovascular Disease; the Role of NOX Proteins

Sipkens, J.A.

2012

document version

Publisher's PDF, also known as Version of record

[Link to publication in VU Research Portal](#)

citation for published version (APA)

Sipkens, J. A. (2012). *Homocysteine as a Risk Factor for the Development of Cardiovascular Disease; the Role of NOX Proteins*. [PhD-Thesis - Research and graduation internal, Vrije Universiteit Amsterdam].

General rights

Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

E-mail address:

vuresearchportal.ub@vu.nl

CONTENTS

Chapter 1	General Introduction	7
Chapter 2	Ischemia induces nuclear NOX2 expression in cardiomyocytes and subsequently activates apoptosis	21
Chapter 3	Homocysteine-induced apoptosis in endothelial cells coincides with nuclear NOX2 and peri-nuclear NOX4 activity	33
Chapter 4	Homocysteine affects cardiomyocyte viability: concentration-dependent effects on reversible flip-flop, apoptosis and necrosis	47
Chapter 5	Inhibition of Rho-ROCK signaling induces apoptotic and non-apoptotic PS exposure in cardiomyocytes via inhibition of flippase	61
Chapter 6	Homocysteine induces phosphatidylserine exposure in cardiomyocytes through inhibition of Rho kinase and flippase activity	73
Chapter 7	S-Adenosylhomocysteine induces apoptosis and phosphatidylserine exposure in endothelial cells independent of homocysteine	85
Chapter 8	Homocysteine-induced cardiomyocyte apoptosis and plasma membrane flip-flop are independent of S-adenosylhomocysteine. A crucial role for nuclear p47 ^{phox}	95
Chapter 9	Discussion	109
Chapter 10	Summary / Samenvatting	125
Chapter 11	Dankwoord	133
Chapter 12	List of publications	139