

# VU Research Portal

## **NADPH oxidases in the cardiovascular system**

Hahn, N.E.

2014

### **document version**

Publisher's PDF, also known as Version of record

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

### **citation for published version (APA)**

Hahn, N. E. (2014). *NADPH oxidases in the cardiovascular system*. [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](mailto:vuresearchportal.ub@vu.nl)

## Contents

<b>Chapter 1</b>	General introduction .....	11
<b>Chapter 2</b>	NOX2, p22 <sup>phox</sup> and p47 <sup>phox</sup> are targeted to the nuclear pore complex in ischemic cardiomyocytes colocalizing with local reactive oxygen species .....	23
<b>Chapter 3</b>	Nuclear NOX2/p47 <sup>phox</sup> -induced reactive oxygen species stimulate nuclear translocation of the transcription factor FOXO1 in ischemic cardiomyocytes, resulting in apoptosis .....	41
<b>Chapter 4</b>	Homocysteine-induced cardiomyocyte apoptosis and plasma membrane flip-flop are independent of <i>s</i> -adenosylhomocysteine. A crucial role for nuclear p47 <sup>phox</sup> expression .....	59
<b>Chapter 5</b>	Early NOX2 activation is crucial in phenylephrine-induced hypertrophy of H9c2 cells .....	81
<b>Chapter 6</b>	NOX5 expression is increased in intramyocardial blood vessels and cardiomyocytes after acute myocardial infarction in humans .....	99
<b>Chapter 7</b>	Homocysteine induced apoptosis in endothelial cells coincides with nuclear NOX2 and peri-nuclear NOX4 activity .....	119
<b>Chapter 8</b>	<i>s</i> -adenosylhomocysteine induces apoptosis and phosphatidylserine exposure in endothelial cells independent of homocysteine .....	141
<b>Chapter 9</b>	Homocysteine induces apoptosis of arterial smooth muscle cells via (peri)nuclear NOX4-induced reactive oxygen species .....	159
<b>Chapter 10</b>	Discussion .....	177
<b>Nederlandse samenvatting .....</b>		<b>195</b>
<b>List of publications .....</b>		<b>205</b>
<b>Curriculum Vitae .....</b>		<b>208</b>
<b>Dankwoord .....</b>		<b>209</b>