

Curriculum Vitae

Personal details

Name: Reinier A Boon
Birth Date: 30-08-1981
Nationality: Dutch
Title: Dr. (PhD)
ResearcherID: E-8423-2011



Education

University (Masters degree):

1999-2004 Medical Biology, University of Amsterdam, Amsterdam, the Netherlands

Doctoral degree:

2004-2008 Faculty of Medicine, Academic Medical Center, University of Amsterdam, Amsterdam, the Netherlands.
Thesis Title: “The transcription factor KLF2 in vascular biology”
PhD supervisors: Prof. Dr. AJG Horrevoets and Prof. Dr. H. Pannekoek
Mark: **Cum Laude** (Top 5%)

Post-doctoral work

2008 Post-doctoral Fellow, Dep. of Molecular Cell Biology and Immunology, VU University Medical Center, Amsterdam, the Netherlands.
(01-06-08 – 01-12-08)
2008-now Post-doctoral Fellow, Institute for Cardiovascular Regeneration, Centre for Molecular Medicine, Frankfurt University, Frankfurt, Germany

Grants

2007-2008 PhD Student Exchange Programme grant from the European Vascular Genomics Network (15-09-07 – 15-02-09), €10K
“KLF2 in stem cells and endothelial progenitor cells”
2009-2010 Personal Rubicon grant from the Dutch Scientific Organization (NWO), €70K, “Improving endothelial progenitor cell function: Epigenetic and transcriptional regulation”
2010 Personal start-up grant from the Excellence Cluster Cardio-Pulmonary System (ECCPS), €80K,
“Targeting microRNA-34 to reverse age-induced cardiac impairment”
2011 Personal follow-up grant from the Excellence Cluster Cardio-Pulmonary System (ECCPS), €57K, “Dissecting the role of microRNA-34a in age-induced cardiac impairment”
2011 Personal start-up grant from the LOEWE Center for Gene Therapy (LOEWE-CGT), €64K,
“Gene therapy of aneurysms by anti-miR-29”

Awards

2006 Dutch Atherosclerosis Society, Fellowship

- 2006 International Vascular Biology Meeting, Young Investigator Award Finalist
- 2006 Dutch Heart Foundation, PhD training course, 1st prize poster / oral presentation competition
- 2007 Academic Medical Center, Young Scientist Publication Award (3rd prize)
- 2008 European Vascular Genomics Network, summer school, Poster Award Winner
- 2009 Biomechanics in Vascular Biology and Cardiovascular Disease, Young Investigator Award Winner
- 2010 German Cardiac Society, Annual meeting, Young Investigator Award Finalist
- 2010 Biomechanics in Vascular Biology and Cardiovascular Disease, Poster Award Winner
- 2010 American Heart Association, Melvin L. Marcus Young Investigator Award Winner
- 2011 Keystone Symposia, Travel Award Winner

Patent Applications

- 2010 “Antagonists of miRNA-29 expression and their use in the prevention and treatment of aortic aneurysms,” European Patent Pending
- 2010 “Microvesicles Derived from atheroprotective Endothelial Cells for the Treatment and Prevention of Atherosclerotic Diseases,” European Patent Pending
- 2011 “Prevention of age-associated deterioration of heart function by antagonizing microRNA-34a”, US Patent Pending

Invited oral presentations

- 2010 “Inhibition of the age-induced microRNA-34 improves recovery after AMI in mice” Heart Repair Farewell Meeting, Amsterdam, the Netherlands.
- 2010 “MicroRNAs in cardiovascular disease” Oligonucleotide Therapeutics Society Annual Meeting, Dana Point, CA, USA
- 2011 “Aging and Cardiovascular Disease: The role of microRNAs” ICar-VU Annual Meeting, Amsterdam, the Netherlands
- 2011 “MicroRNA-based therapeutics for Cardiovascular diseases” XVII Paavo Nurmi Symposium, Helsinki, Finland
- 2011 “The role of microRNAs in cardiovascular aging” 6th European Meeting for Vascular Biology and Medicine, Krakow, Poland

Ad hoc reviewer

Blood, Circulation Research, European Heart Journal, Heart

Publications and presentations

Original research articles

Hergenreider E, Heydt S, Tréguer K, Böttger T, Horrevoets AJ, Zeiher AM, Braun T, Urbich C, Boon RA,* Dimmeler S.* **Atheroprotective communication between endothelial cells and smooth muscle cells via KLF2-dependent enrichment of microRNAs in microvesicles.** *Manuscript submitted*

Boon RA,* Iekushi K,* Fischer A, Carmona G, Bonauer A, Horrevoets AJ, Zeiher AM, Dimmeler S. **Age-dependent upregulation of miR-34a controls cardiac apoptosis and function.** *Manuscript submitted*

Boon RA, Seeger T, Heydt S, Fischer A, Vinciguerra M, Rosenthal N, Sciacca S, Pilato M, Essers J, Brandes RP, Zeiher AM, Dimmeler S. **MicroRNA-29 in aortic aneurysm formation.** *Circulation Research* 2011 109(10):1115-1119 *With cover figure and editorial.*

Boon RA, Urbich C, Fischer A, Fontijn RD, Seeger FH, Koyanagi M, Horrevoets AJ, Dimmeler S. **KLF2 improves neovascularization capacity of aged proangiogenic cells.** *European Heart Journal* 2011 32(3):371-3

Boon RA,* Leyen TA,* Fontijn RD, Fledderus JO, Baggen JM, Volger OL, van Nieuw Amerongen GP, Horrevoets AJ. **KLF2-induced actin shear fibers control both alignment to flow and JNK signaling in vascular endothelium.** *Blood* 2010 115(12):2533-2542 *With cover figure.*

Fledderus JO,* Boon RA,* Volger OL, Hurttala H, Ylä-Herttuala S, Pannekoek H, Levonen A and Horrevoets AJ. **KLF2 primes the antioxidant transcription factor Nrf2 for activation in endothelial cells.** *Arterioscler Thromb Vasc Biol.* 2008 28:1339-46

Fledderus JO, van Thienen JV, Boon RA, Dekker RJ, Rohlena J, Volger OL, Bijmens AP, Daemen MJ, Kuiper J, van Berkel TJ, Pannekoek H, Horrevoets AJ. **Prolonged shear stress and KLF2 suppress constitutive pro-inflammatory transcription through inhibition of ATF2.** *Blood* 2007 109(10):4249-57 *With editorial.*

Boon RA, Fledderus JO, Volger OL, van Wanrooij EJ, Pardali E, Weesie F, Kuiper J, Pannekoek H, ten Dijke P, Horrevoets AJ. **KLF2 suppresses TGF-beta signaling in endothelium through induction of Smad7 and inhibition of AP-1.** *Arterioscler Thromb Vasc Biol.* 2007 27(3):532-9

Dekker RJ,* Boon RA,* Rondaij MG, Kragt A, Volger OL, Elderkamp YW, Meijers JC, Voorberg J, Pannekoek H, Horrevoets AJ. **KLF2 provokes a gene expression pattern that establishes functional quiescent differentiation of the endothelium.** *Blood* 2006 107(11):4354-63

Pendle AF, Clark GP, Boon RA, Lewandowska D, Lam YW, Andersen J, Mann M, Lamond AI, Brown JW, Shaw PJ. **Proteomic analysis of the Arabidopsis nucleolus suggests novel nucleolar functions.** *Mol Biol Cell.* 2005 16(1):260-9

*Authors contributed equally

Invited review articles (chronological order)

Bonauer A, Boon RA, Dimmeler S. **Vascular microRNAs**. *Curr. Drug Targets* 2010 11(8):943-9

Boon RA, Horrevoets AJ. **Key transcriptional regulators of the vasoprotective effects of shear stress**. *Hamostaseologie* 2009 29(1):39-43

Key oral presentations

Boon RA, Iekushi K, Fischer A, Carmona G, Bonauer A, Horrevoets AJ, Zeiher AM, Dimmeler S. **Inhibition of the age-induced microRNA-34 improves recovery after AMI in mice**. American Heart Association, Scientific Sessions, Melvin L. Marcus Young Investigator Award Session, Chicago, IL, November 2010.

Boon RA, Iekushi K, Fischer A, Carmona G, Bonauer A, Horrevoets AJ, Zeiher AM, Dimmeler S. **Inhibition of the age-induced microRNA-34 improves recovery after AMI in mice**. German Cardiac Society, yearly meeting, Young Investigator Award Session, Mannheim, Germany, April 2010.

Boon RA, Fontijn RD, Fledderus JO, Leyen TA, Baggen JM, Volger OL, van Nieuw Amerongen GP, Horrevoets AJ. **Distinct actin shear fibers are essential for the anti-inflammatory effects of KLF2 in endothelial cells**. Biomechanics in vascular biology and cardiovascular disease, Rotterdam, the Netherlands, April 2009.

Boon RA, Fledderus JO, Volger OL, Hurttala H, Ylä-Herttuala S, Pannekoek H, Levonen A and Horrevoets AJ. **KLF2 primes the antioxidant transcription factor Nrf2 for activation in endothelial cells**. Arteriosclerosis Thrombosis and Vascular Biology, Inflammation and Redox signalling session, Atlanta, GE, April 2008.

Boon RA, Fledderus JO, Volger OL, Horrevoets AJ. **KLF2 and shear stress desensitize endothelial cells for activating stimuli through distinct pathways**. European Meeting on Vascular Biology and Medicine, Endothelial Function Session, Bristol, England, September 2007.

Boon RA, Dekker RJ, Rondaij MG, Kragt A, Volger OL, Elderkamp YW, Meijers JC, Voorberg J, Pannekoek H, Horrevoets AJ. **KLF2 provokes a gene expression pattern that establishes functional quiescent differentiation of the endothelium**. International Vascular Biology Meeting, Young Investigator Award Session, Noordwijkerhout, the Netherlands, June 2006.

Key poster presentations

Boon RA, Fischer A, Carmona G, Heydt S, Vinciguerra M, Rosenthal N, Sciacca S, Pilato M, Brandes RP, Zeiher AM, Dimmeler S. **MicroRNA-29 links aging with aortic aneurysm formation**. Biomechanics in vascular biology and cardiovascular disease, Rotterdam, the Netherlands, April 2010.

Boon RA, Fischer A, Carmona G, Heydt S, Vinciguerra M, Rosenthal N, Sciacca S, Pilato M, Brandes RP, Zeiher AM, Dimmeler S. **MicroRNA-29 links aging with aortic aneurysm formation.** German Cardiac Society, yearly meeting, Mannheim, Germany, April 2010.

Boon RA, Urbich C, Fischer A, Fontijn RD, Seeger FH, Koyanagi M, Horrevoets AJ and Dimmeler S. **KLF2 restores neovascularization capacity of aged proangiogenic cells.** American Heart Association, Scientific Sessions, Orlando, FL, November 2009

Boon RA, van Thienen JV, Fledderus JO, Fontijn RD, Volger OL and Horrevoets AJ. **Endothelial KLF2 regulates Mitogen Activated Protein Kinase Signaling through RhoA and the Actin Cytoskeleton.** Biomechanics in vascular biology and cardiovascular disease, Rotterdam, the Netherlands, April 2008.

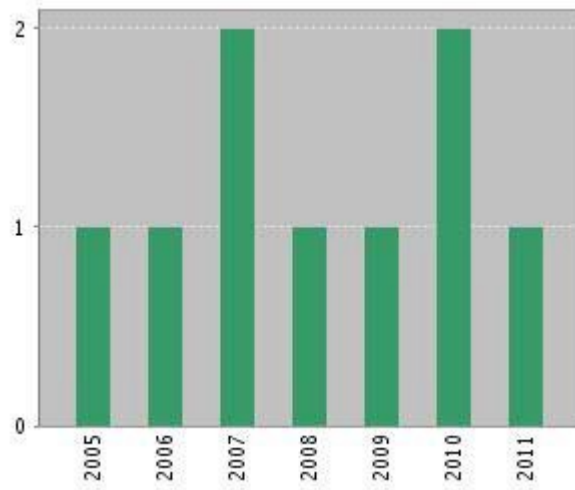
Boon RA, van Thienen JV, Fledderus JO, Fontijn RD, Volger OL and Horrevoets AJ. **Endothelial KLF2 regulates Mitogen Activated Protein Kinase Signaling through RhoA and the Actin Cytoskeleton.** Arteriosclerosis Thrombosis and Vascular Biology, Atlanta, GE, April 2008.

Boon RA, Fledderus JO, Volger OL, van Wanrooij EJ, Pardali E, Weesie F, Kuiper J, Pannekoek H, ten Dijke P and Horrevoets AJ. **KLF2 suppresses TGF- β signaling in endothelium through induction of Smad7 and inhibition of AP-1.** Biomechanics in vascular biology and cardiovascular disease, Rotterdam, the Netherlands, April 2007.

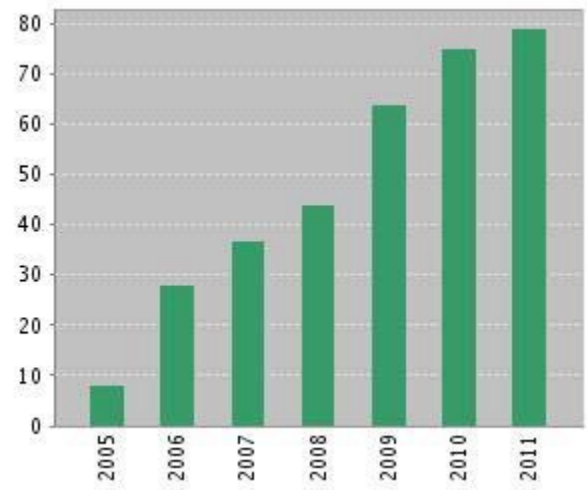
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