

Curriculum Vitae



Biographical Sketch

Name: Professor Dr. rer. nat. Dipl. Biol. Stefanie Dimmeler

Nationality: German

Education/Training

1986 - 1991	Biology Student at the University of Konstanz/Germany
15. February 1991	M.S. in Biology (Dipl. Biol.) (Mark: very good)
March 1991 - Jan. 1993	PhD Student at the Department of Biological Chemistry (Prof. Dr. V. Ullrich), University Konstanz: Title: "Nitric oxide-stimulated ADP-ribosylation"
14. January 1993	Doctoral degree (Dr. rer. nat.) (Mark: very good)
Dec. 1992 - June 1995	Post-doctoral fellow at the Biochemical and Experimental Division of the II. Department of Surgery at the University of Cologne/Germany (Prof. Dr. E. Neugebauer)
June 1995 - Jan 2001	Senior Post-doctoral fellow (Wissenschaftliche Assistentin; C1) at the Medizinischen Klinik IV, Kardiologie, Johann Wolfgang Goethe Universität Frankfurt/Germany (Prof. Dr. Andreas M. Zeiher)
since October 1997	Head Division of "Molecular Cardiology" (Schwerpunkt: Molekulare Kardiologie) at the University of Frankfurt
November 1998	Associate Professor - Habilitation „Experimentelle Medizin“ Title: Endotheldysfunktion in der Atherosklerose - Untersuchungen zur Apoptose von Endothelzellen

January 2001	Professorship for Molecular Cardiology III at the University of Frankfurt (C3 Professur auf Lebenszeit)
December 2005	Visiting Professor Baylor College of Medicine Houston, USA
2006 - 2008	Visiting Professor New York Medical College, USA
2007 - 2008	Edmond Hustinx Chair (Visiting Professor), CARIM, University of Maastricht, Netherlands
since March 2008	Full Professorship (W3) , Director of the Institute of Cardiovascular Regeneration, Center for Molecular Medicine, University Frankfurt/Germany
2008 – 2012	Member of the German Ethical Committee (Deutscher Ethikrat, Berlin/Germany)
June 2009	Visiting Professor at Stanford University
since December 2010	Chief Editor “ EMBO Molecular Medicine ”
April 2012	Visiting Professor during the Robert L. Krakoff International Lectureship in Cardiovascular Medicine, Harvard Medical School, Boston, USA

Honors and Awards

- 1991 Foundation of German Sciences (Preis des Stifterverbands für die deutsche Wissenschaft), Award
- 1991 Fellowship “Graduiertenkolleg: Biochemische Pharmakologie”
- 1992 Fellowship: “Boehringer Ingelheim Fonds”
- 1994 Fritz-Külz-Award of the German Association of Pharmacology and Toxicology
- 1997/98 Habilitationsstipendium of the Deutsche Forschungsgemeinschaft (DFG)
- 1998 Award of the German Heart Foundation (Forschungspreis der Deutschen Stiftung für Herzforschung)
- 1999 Award of the Herbert and Hedwig Eckelmann-Foundation
- 2000 Award of the German Cardiac Society (Fraenkel-Preis der Deutschen Gesellschaft für Kardiologie-Herz-Kreislaufforschung)
- since 2001 Fellow of the „American Heart Association“
- 2002 Alfred Krupp-Award 2002
- 2004 Forssmann Award 2004
- 2005 Leibniz Award of the Deutsche Forschungsgemeinschaft (DFG)
- 2005 George E. Brown Memorial Lecture at the Scientific Session of the AHA 2005
- 2006 FEBS Anniversary Prize 2006
- 2006 Basic Science Lecture and Silver Medal of the European Society of Cardiology 2006
- 2006 Karl-Landsteiner Vorlesung (named lecture) of the German Association for Transfusion Medicine and Immunhematology
- 2007 Ernst Jung Award 2007
- 2008 Science4Life Award 2008
- 2010 Research Award of the GlaxoSmithKline Foundation
- 2010 Chief Editor of the Journal “EMBO Molecular Medicine”
- 2010 Life Achievement Award by Dutch-German Molecular Cardiology Working Groups

Editorial Board Member

Arteriosclerosis Thrombosis Vascular Biology (ATVB) (2001-present)
Basic Research in Cardiology (2001-present)
Circulation (2001-present)
Circulation Research (2000 – present, Associated Editor since 2008)
European Heart Journal (Associated Editor for basic science since 2008)
Journal of Clinical Investigation (2005- present)

Reviewer (selection)

Cancer Cell, Cell, EMBO Journal, FASEB Journal, Journal of Biological Chemistry, Journal of Experimental Medicine, Nature Cell Biology, Nature Medicine, New England Journal of Medicine, Molecular Cell, PNAS, Science
Gottfried Wilhelm Leibniz and Heinz Maier-Leibnitz Award Committees of the German Research Foundation
ERC start-up grants - Panel member (since 2010) and chair (2014)

Patents

- 2003 “Endothelial nitric oxide synthase transcription enhancers” (Dimmeler/Zeiber/Heeschen) (WO2004EP11944 20041022; EP20030025512 20031106; US20040979399 20041102; US20040583622P 20040629)
- 2002 „CD40ligand and placental growth factor (plgf) used as a biochemical marker combination in cardiovascular diseases“ (Dimmeler/Zeiber/Heeschen) (DE 10253525.6 (16.11.02) and DE 10316059.0 (8.4.03); DE20021053525 20021116; DE20031016059 20030408; WO2003EP12531 2003110)
- 2003 „PIGF and Flt-1 as prognostic parameters for cardiovascular disease“ (Dimmeler/Zeiber/Heeschen) (DE200410051847 20041025; WO2005EP11443 20051025)
- 2005 “Shock wave pretreatment as a therapeutic tool for targeted recruitment of stem/progenitor cell” (Dimmeler/Zeiber/Heeschen/Aicher) (US20050304865 20051215; US20040636204P 20041215)
- 2007 “Method for the promotion of angiogenesis, vascularization, or vascular repair or for the inhibition of tumor angiogenesis (miR-92)” (Dimmeler/Zeiber/Kühbacher/Urbich) (DE 102 0007052114.8 30.10.2007)
- 2010 “Antagonists of miRNA-29 expression and their use in the prevention and treatment of aortic aneurysms,” (Dimmeler, Zeiber, Boon) - Patent pending
- 2010 “Microvesicles Derived from atheroprotective Endothelial Cells for the Treatment and Prevention of Atherosclerotic Diseases” (Dimmeler, Boon, Hergenreider) - Patent pending
- 2011 “Prevention of age-associated deterioration of heart function by antagonizing microRNA-34a” (Dimmeler, Zeiber, Boon, Fischer) - Patent pending

Conference Organisation (international conferences only)

1st Annual Symposium of the AHA Council of Basic Cardiovascular Sciences “Stress signals, molecular target and the genome”, July 14 - 18, 2004; Stevenson, Washington, US

Symposium “Molecular and cellular regulators of vascular homeostasis”, March 10 - 11, 2005, Frankfurt, Germany

57th Mosbach Colloquium by the German Society for Biochemistry and Molecular Biology (GBM) “Redox signaling: Mechanisms and Biological Impact”, April 6 - 8, 2006, Mosbach, Germany

Keystone Meeting “Mechanisms of Cardiac Disease and Regeneration”, February 19 - 24, 2006, Santa Fe, New Mexico, US

Joint 2007 Keystone Symposia “Molecular Pathways in Cardiac Development and Disease/ Integrative Basis of Cardiovascular Disease”, January 22 - 27, 2007, Breckenridge, Colorado

Symposium „microRNAs in the cardiovascular system“, September 18th, 2009, Frankfurt, Germany

EMBO Molecular Medicine “Molecular Insights for Innovative Therapies”, December 1 – 3, 2011 Heidelberg, Germany

EMBO Workshop reciprocal interactions of Signaling Pathways & non-coding RNA, September 16 – 19, 2012 Monte Verità, Ascona, Switzerland

Invited Presentations (Selection of 500)

Gordon-Conference “Angiotensin”, Oxford, 1999

„Regulation of endothelial cell apoptosis by angiotensin II“

American Heart Association - 73rd Scientific Sessions New Orleans, November 2000

Cardiovascular Seminar: “The role of Akt phosphorylation in eNOS activation”

Nobel Conference on Apoptosis, Stockholm October 2001

“Molecular Mechanisms regulating endothelial cell apoptosis”

American Heart Association – 74th Scientific Sessions Los Angeles, November 2001

Cardiovascular Seminar: “Post-transcriptional regulation of eNOS”

Japanese Circulation Society – 66th Annual Meeting Sapporo, April 2002

Symposium: “Redox signaling and cardiovascular diseases“

Featured Research: „Atherosclerosis: new insights and interventions“

American Heart Association – 75th Scientific Sessions, Chicago November 2002

Frontiers in Basic Science Lecture: “Cardiac muscle cell formation by adult mesangioblasts”

State of the Art Lecture: „Vascular Regeneration and remodeling“

Japanese Circulation Society – 67th Annual Meeting Fukuoka, March 2003

Featured Research Keynote Lecture “Apoptosis and endothelial regeneration“

6th EMBL Minisymposium on Molecular Medicine, Rome May 2003

“Endothelial Progenitor Cells and Cardiac Regeneration”

International Society of Thrombosis and Haemostasis XIXth Congress, Birmingham July 2003

“Stem cell mobilisation and differentiation to endothelial cells”

American Heart Association: Basic biology and insights into ischemic heart disease and heart failure, Snowbird August 2003

“Circulating progenitor cells: molecular mechanisms and clinical relevance”

American Heart Association – 76th Scientific Sessions, Orlando, November 2003

Cardiovascular Seminar: “Endothelial cell apoptosis in atherosclerosis”

Cardiovascular Seminar: “NO and age-related apoptosis”

Keystone Symposium: “Cardiac Development and Congenital Heart Disease” and “Molecular Biology of Heart Disease” Joined Session Keystone, Colorado, March 2004

“Circulating Progenitor Cells for Vasculogenesis and Cardiac Regeneration”

Symposium on Cardiovascular Regenerative Medicine at the NIH, September 2004

Endothelial progenitor cells and tissue regeneration

American Heart Association – 77th Scientific Sessions, New Orleans, November 2004

Special Session: “Endothelial progenitor cells”

Keystone Symposium: The cellular biology of atherosclerosis. Keystone, Colorado, January 2005 Arterial wall-based therapy of atherosclerosis: Stem cell therapies

69th Annual Scientific Meeting of the Japanese Circulation Society March 2005, Yokohama, Japan

1. Circulating progenitor cells for regeneration enhancement in ischemic heart disease
2. Role of acetylation and homeobox genes in endothelial differentiation

Gordon Conference: “Angiogenesis and Microcirculation” Newport, Rhode Island, August 2005

Molecular mechanism regulating homing and differentiation of endothelial progenitor cells

British Atherosclerosis Society Meeting, Cambridge, UK, September 2005

Hugh Sinclair Lecture: Stem cell and endothelial progenitor cell senescence in atherosclerosis

American Heart Association – 78th Scientific Sessions, Dallas, November 2005
George E. Brown Memorial Lecture

Miami Nature Biotechnology Symposium Winter Symposium Angiogenesis in Cancer and Vascular Disease, 4 – 8 February 2006
"Mechanism regulating endothelial progenitor cell homing and differentiation"

Keystone Symposium on Molecular Mechanism of Cardiac Disease and Regeneration. Santa Fe, 19 - 24 February 2006
"Endothelial progenitor cells for neovascularization"

5th Congress of Asian Pacific Society of Atherosclerosis, Jeju, Korea, 11 - 16 April 2006
"Vascular biology and stem cells"

Keystone Symposium on Integrative Basis of Cardiovascular Disease, Breckenridge, 22 - 27 January 2007
"Progenitor cells in cardiovascular repair"

Keystone Symposium on Cardiac Disease in Asheville, North Carolina, 18 – 19 March 2009
Talk: „Control of Angiogenesis by microRNA“

AHA-BCVS-Conference 2009 in Las Vegas / USA, 22 – 2 July 2009
Talk: „Cardiac Stem Cell Recruitment Following Injury“

Victor Chang Symposium in Darlinghurst / Australien, 27 October - 03 November 2009
Lecture: "microRNAs in cardiovascular repair"

BSCR/BAS Meeting with BCS in Manchester / England, 07 – 09 June 2010
Talk: "MicroRNA in cardiovascular development and disease"

WorldPharma 2010 in Kopenhagen / Dänemark, 19 July 2010
Plenary Lecture: "Cell Therapy"

Gordon Research Conference on Endothelial Phenotypes in Biddeford, Maine / USA, 08 – 09 August 2010
Keynote lecture: „microRNAs in in the Endothelium – What are they doing? “

Keystone Symposia Sirtuins in Metabolism, Aging and Disease in Tahoe City, California, 12 - 16 February 2012
Talk: "SIRT1-Regulating microRNAs in Cardiovascular Disease and Aging"

Keystone Symposia on pulmonary vascular disease in Monterey, California / USA, 10 – 13 September 2012
Talk: "The Role of Stem Cells in Angiogenesis and Vascular Repair"

American Heart Association 2012 in Los Angeles / USA, 01 – 07 November 2012
Plenary lecture: "Regeneration of the Myocardium"

Gordon Conference "Atherosclerosis" in Stowe/USA, 16 -19 June 2013
Talk: "Atheroprotective communication via microRNA"

Nature Medicine Herrenhausen Symposium on "Stem Cells and Regenerative Medicine" in Hannover / Germany, 8.-10. October 2013
Talk: "Cell fate and differentiation"

Past and present leadership in national and international networks

National networks:

- Collaborative research center SFB 553 (2000 - 2007) (member of the steering committee)
- Research Unit FOR501 (Initiator and coordinator 2003 - 2006)
- Collaborative research center TR-SFB23 (steering committee 2005 – present)
- Excellence Cluster “Cardiopulmonary System” (member of the steering committee and area leader; 2006 - present)
- Collaborative research center SFB 834 (vice-spokesperson)
- Collaborative Research Centre 902 (since 2011)
- DZHK (Deutsches Zentrum für Herz-Kreislauf Forschung) Vice Spokesperson, RheinMain Area Leader “Vascular Disease” (2011 – present)

International networks:

- European Network of Excellence (EVGN) (Member of the executive committee and Area leader) (2004 - 2010)
- Transatlantik Network of Excellence “Cardiac Regeneration” funded by the Leducq Foundation (European Coordinator) (2004 - 2008)
- European Integrated Project “Heart Repair” (Member of the Executive board, Area leader) (2006 - 2010)

Publications and citation statistics

Total number of publications: 350

Citation: 35.770 citations; ~ 60 citations/article

H-index: 101

Top 10 Publications

1. **Dimmeler S**, Fisslthaler B, Fleming I, Hermann C, Busse R, Zeiher AM. Activation of nitric oxide synthase in endothelial cells via Akt-dependent phosphorylation. *Nature*. 1999;399:601-605
IF: 38,6; Citations: 1944
2. **Dimmeler S**, Aicher A, Vasa M, Mildner-Rihm C, Adler K, Tiemann M, Rutten H, Fichtlscherer S, Martin H, Zeiher AM. HMG-CoA reductase inhibitors (statins) increase endothelial progenitor cells via the PI3-kinase/Akt pathway. *J Clin Invest*. 2001;108:391-397.
IF: 12,8; Citations: 767
3. Aicher A, Heeschen C, Mildner-Rihm C, Urbich C, Ihling C, Technau-Ihling K, Zeiher AM, **Dimmeler S**. Essential role of endothelial nitric oxide synthase for mobilization of stem and progenitor cells. *Nat Med*. 2003;9:1370-1376
IF: 24,3; Citations: 748
4. Urbich C, Heeschen C, Aicher A, Sasaki KI, Bruhl T, Farhadi MR, Vajkoczy P, Hofmann WK, Peters C, Pennacchio LA, Abolmaali ND, Chavakis E, Reinheckel T, Zeiher AM, **Dimmeler S**. Cathepsin L is required for endothelial progenitor cell-induced neovascularization. *Nat Med*. 2005;11:206-213
IF: 24,3; Citations: 160
5. Assmus B, Honold J, Schachinger V, Britten MB, Fischer-Rasokat U, Lehmann R, Teupe C, Pistorius K, Martin H, Abolmaali ND, Tonn T, **Dimmeler S***, Zeiher AM*. Transcoronary transplantation of progenitor cells after myocardial infarction. *N Engl J Med*. 2006;355:1222-1232 *contributed equally
IF: 51,7; Citations: 563
6. Bonauer A, Carmona G, Iwasaki M, Mione M, Koyanagi M, Fischer A, Burchfield J, Fox H, Doebele C, Ohtani K, Chavakis E, Potente M, Tjwa M, Urbich C, Zeiher AM, **Dimmeler S**. MicroRNA-92a controls angiogenesis and functional recovery of ischemic tissues in mice. *Science*. 2009;324:1710-1713
IF: 31,0; Citations: 327
7. Kuehbach A, Urbich C, Zeiher AM, **Dimmeler S**. Role of Dicer and Drosha for endothelial microrna expression and angiogenesis. *Circ Res*. 2007;101:59-68
IF: 11,8; Citations: 286
8. Guarani V, Deflorian G, Franco CA, Kruger M, Phng LK, Bentley K, Toussaint L, Dequiedt F, Mostoslavsky R, Schmidt MH, Zimmermann B, Brandes RP, Mione M, Westphal CH, Braun T, Zeiher AM, Gerhard H, **Dimmeler S**, Potente M. Acetylation-dependent regulation of endothelial notch signalling by the sirt1 deacetylase. *Nature*. 2011;473:234-238
IF: 38,6; Citations: 62
9. Hergenreider E, Heydt S, Treguer K, Boettger T, Horrevoets AJ, Zeiher AM, Scheffer MP, Frangakis AS, Yin X, Mayr M, Braun T, Urbich C, Boon RA, **Dimmeler S**. Atheroprotective communication between endothelial cells and smooth muscle cells through miRNAs. *Nat Cell Biol*. 2012;14:249-256
IF: 20,8; Citations: 100
10. Boon RA, Iekushi K, Lechner S, Seeger T, Fischer A, Heydt S, Kaluza D, Treguer K, Carmona G, Bonauer A, Horrevoets AJ, Didier N, Girmatsion Z, Biliczki P, Ehrlich JR, Katus HA, Muller OJ, Potente M, Zeiher AM, Hermeking H, **Dimmeler S**. MicroRNA-34a regulates cardiac ageing and function. *Nature*. 2013;495:107-110
IF: 38,6; Citations: 19

Selected publications (50 out of >300)

1. **Dimmeler S**, Haendeler J, Nehls M, Zeiher AM. Suppression of apoptosis by nitric oxide via inhibition of ICE-like and CPP32-like proteases. *J. Exp. Med.* 1997;185:601-608
IF: 13,215
2. **Dimmeler S**, Assmus B, Hermann C, Haendeler J, Zeiher AM. Fluid shear stress stimulates phosphorylation of Akt in human endothelial cells: involvement in suppression of apoptosis. *Circ Res.* 1998;83:334-342
IF: 11,861
3. **Dimmeler S**, Breitschopf K, Haendeler J, Zeiher AM. Dephosphorylation targets Bcl-2 for ubiquitin-dependent degradation: a link between the apoptosome and the proteasome pathway. *J Exp Med.* 1999;189:1815-1822
IF: 13,215
4. **Dimmeler S**, Fisslthaler B, Fleming I, Hermann C, Busse R, Zeiher AM. Activation of nitric oxide synthase in endothelial cells via Akt-dependent phosphorylation. *Nature.* 1999;399:601-605
IF: 38,597
5. **Dimmeler S**, Aicher A, Vasa M, Mildner-Rihm C, Adler K, Tiemann M, Rutten H, Fichtlscherer S, Martin H, Zeiher AM. HMG-CoA reductase inhibitors (statins) increase endothelial progenitor cells via the PI 3-kinase/Akt pathway. *J Clin Invest.* 2001;108:391-397.
IF: 12,812
6. Urbich C, Mallat Z, Tedgui A, Clauss M, Zeiher AM, **Dimmeler S**. Upregulation of TRAF3 by shear stress blocks CD40-mediated endothelial activation. *J Clin Invest.* 2001;108:1451-1458
IF: 12,812
7. Vasa M, Fichtlscherer S, Adler K, Mildner-Rihm C, Aicher A, Martin H, Zeiher AM, **Dimmeler S**. Increase in circulating endothelial progenitor cells by statin therapy in patients with stable coronary artery disease. *Circulation.* 2001;103:2885-2890
IF:15,202
8. Vasa M, Fichtlscherer S, Aicher A, Adler K, Urbich C, Martin H, Zeiher AM, **Dimmeler S**. Number and migratory activity of circulating endothelial progenitor cells inversely correlate with risk factors for coronary artery disease. *Circ Res.* 2001;89:E1-7.
IF: 11,861
9. Assmus B, Schachinger V, Teupe C, Britten M, Lehmann R, Dobert N, Grunwald F, Aicher A, Urbich C, Martin H, Hoelzer D, **Dimmeler S***, Zeiher AM*. Transplantation of Progenitor Cells and Regeneration Enhancement in Acute Myocardial Infarction (TOPCARE-AMI). *Circulation.* 2002;106:3009-3017.
*contributed equally
IF:15,202
10. Badorff C, Ruetten H, Mueller S, Gehring D, Jung F, Ihling C, Zeiher AM, **Dimmeler S**. Fas receptor signaling inhibits GSK3 β in cardiomyocytes and is required for pressure overload-induced hypertrophy. *J Clin Invest.* 2002;109:373-381
IF: 12,812
11. Haendeler J, Hoffmann J, Tischler V, Berk BC, Zeiher AM, **Dimmeler S**. Redox regulatory and anti-apoptotic functions of thioredoxin depend on S-nitrosylation at cysteine 69. *Nature Cell Biology.* 2002;4:743-749
IF: 20,761
12. Aicher A, Brenner W, Zuhayra M, Badorff C, Massoudi S, Assmus B, Eckey T, Henze E, Zeiher AM, **Dimmeler S**. Assessment of the Tissue Distribution of Transplanted Human Endothelial Progenitor Cells by Radioactive Labeling. *Circulation.*2003;107:2134-2139
IF:15,202
13. Aicher A, Heeschen C, Mildner-Rihm C, Urbich C, Ihling C, Technau-Ihling K, Zeiher AM, **Dimmeler S**. Essential role of endothelial nitric oxide synthase for mobilization of stem and progenitor cells. *Nat Med.* 2003;9:1370-1376
IF: 24,302
14. Badorff C, Brandes RP, Popp R, Rupp S, Urbich C, Aicher A, Fleming I, Busse R, Zeiher AM, **Dimmeler S**. Transdifferentiation of blood-derived human adult endothelial progenitor cells into functionally active cardiomyocytes. *Circulation.* 2003;107:1024-1032
IF:15,202
15. Heeschen C, Aicher A, Lehmann R, Fichtlscherer S, Vasa M, Urbich C, Mildner-Rihm C, Martin H, Zeiher AM, **Dimmeler S**. Erythropoietin is a potent physiological stimulus for endothelial progenitor cell mobilization. *Blood.* 2003;102:1340-1346
IF: 9,060

16. Heeschen C, **Dimmeler S**, Hamm CW, van den Brand MJ, Boersma E, Zeiher AM, Simoons ML. Soluble CD40 ligand in acute coronary syndromes. *N Engl J Med*. 2003;348:1104-1111
IF: 51,658
17. Urbich C, Heeschen C, Aicher A, Dernbach E, Zeiher AM, **Dimmeler S**. Relevance of monocytic features for neovascularization capacity of circulating endothelial progenitor cells. *Circulation*. 2003;108:2511-2516
IF: 15,202
18. Spyridopoulos I, Haendeler J, Urbich C, Brummendorf TH, Oh H, Schneider MD, Zeiher AM, **Dimmeler S**. Statins enhance migratory capacity by upregulation of the telomere repeat-binding factor TRF2 in endothelial progenitor cells. *Circulation*. 2004;110:3136-3142
IF: 15,202
19. Chavakis E, Aicher A, Heeschen C, Sasaki KI, Kaiser R, El Makhfi N, Urbich C, Peters T, Scharffetter-Kochanek K, Zeiher AM, Chavakis T, **Dimmeler S**. Role of β 2-integrins for homing and neovascularization capacity of endothelial progenitor cells. *J Exp Med*. 2005;201:63-72
IF: 13,215
20. **Dimmeler S**, Zeiher AM, Schneider MD. Unchain my heart: the scientific foundations of cardiac repair. *J Clin Invest*. 2005;115:572-583
IF: 12,812
21. Rossig L, Urbich C, Bruhl T, Dernbach E, Heeschen C, Chavakis E, Sasaki K, Aicher D, Diehl F, Seeger F, Potente M, Aicher A, Zanetta L, Dejana E, Zeiher AM, **Dimmeler S**. Histone deacetylase activity is essential for the expression of HoxA9 and for endothelial commitment of progenitor cells. *J Exp Med*. 2005;201:1825-1835
IF: 13,215
22. Urbich C, Heeschen C, Aicher A, Sasaki KI, Bruhl T, Farhadi MR, Vajkoczy P, Hofmann WK, Peters C, Pennacchio LA, Abolmaali ND, Chavakis E, Reinheckel T, Zeiher AM, **Dimmeler S**. Cathepsin L is required for endothelial progenitor cell-induced neovascularization. *Nat Med*. 2005;11:206-213
IF: 24,302
23. Aicher A, Heeschen C, Sasaki K, Urbich C, Zeiher AM, **Dimmeler S**. Low-energy shock wave for enhancing recruitment of endothelial progenitor cells: a new modality to increase efficacy of cell therapy in chronic hind limb ischemia. *Circulation*. 2006;114:2823-2830
IF: 15,202
24. Assmus B, Honold J, Schachinger V, Britten MB, Fischer-Rasokat U, Lehmann R, Teupe C, Pistorius K, Martin H, Abolmaali ND, Tonn T, **Dimmeler S***, Zeiher AM*. Transcoronary transplantation of progenitor cells after myocardial infarction. *N Engl J Med*. 2006;355:1222-1232 * contributed equally
IF: 51,658
25. Schachinger V, Erbs S, Elsasser A, Haberbosch W, Hambrecht R, Holschermann H, Yu J, Corti R, Mathey DG, Hamm CW, Suselbeck T, Assmus B, Tonn T, **Dimmeler S**, Zeiher AM. Intracoronary bone marrow-derived progenitor cells in acute myocardial infarction. *N Engl J Med*. 2006;355:1210-1221
IF: 51,658
26. Kuehnbacher A, Urbich C, Zeiher AM, **Dimmeler S**. Role of Dicer and Drosha for endothelial microRNA expression and angiogenesis. *Circ Res*. 2007;101:59-68
IF: 11,861
27. Potente M, Ghaeni L, Baldessari D, Mostoslavsky R, Rossig L, Dequiedt F, Haendeler J, Mione M, Dejana E, Alt FW, Zeiher AM, **Dimmeler S**. SIRT1 controls endothelial angiogenic functions during vascular growth. *Genes Dev*. 2007;21:2644-2658
IF: 11,659
29. Burchfield JS, Iwasaki M, Koyanagi M, Urbich C, Rosenthal N, Zeiher AM, **Dimmeler S**. Interleukin-10 from transplanted bone marrow mononuclear cells contributes to cardiac protection after myocardial infarction. *Circ Res*. 2008;103:203-211
IF: 11,861
30. Choi EY, Chavakis E, Czabanka MA, Langer HF, Fraemohs L, Economopoulou M, Kundu RK, Orlandi A, Zheng YY, Prieto DA, Ballantyne CM, Constant SL, Aird WC, Papayannopoulou T, Gahmberg CG, Udey MC, Vajkoczy P, Quertermous T, **Dimmeler S**, Weber C, Chavakis T. Del-1, an endogenous leukocyte-endothelial adhesion inhibitor, limits inflammatory cell recruitment. *Science*. 2008;322:1101-1104
IF: 31,027
31. Ziebart T, Yoon CH, Trepels T, Wietelmann A, Braun T, Kiessling F, Stein S, Grez M, Ihling C, Muhly-Reinholz M, Carmona G, Urbich C, Zeiher AM, **Dimmeler S**. Sustained persistence of transplanted proangiogenic cells contributes to neovascularization and cardiac function after ischemia. *Circ Res*. 2008;103:1327-1334
IF: 11,861

32. Taddei A, Giampietro C, Conti A, Orsenigo F, Breviaro F, Pirazzoli V, Potente M, Daly C, **Dimmeler S**, Dejana E. Endothelial adherens junctions control tight junctions by VE-cadherin-mediated upregulation of claudin-5. *Nature cell biology*. 2008;10:923-934
IF:20,767
33. Bonauer A, Carmona G, Iwasaki M, Mione M, Koyanagi M, Fischer A, Burchfield J, Fox H, Doebele C, Ohtani K, Chavakis E, Potente M, Tjwa M, Urbich C, Zeiher AM, **Dimmeler S**. MicroRNA-92a controls angiogenesis and functional recovery of ischemic tissues in mice. *Science*. 2009;324:1710-1713
IF: 31,027
34. Urbich C, Rossig L, Kaluza D, Potente M, Boeckel JN, Knau A, Diehl F, Geng JG, Hofmann WK, Zeiher AM, **Dimmeler S**. HDAC5 is a repressor of angiogenesis and determines the angiogenic gene expression pattern of endothelial cells. *Blood*. 2009;113:5669-5679
IF: 9,060
35. Doebele C, Bonauer A, Fischer A, Scholz A, Reiss Y, Urbich C, Hofmann WK, Zeiher AM, **Dimmeler S**. Members of the microRNA-17-92 cluster exhibit a cell-intrinsic antiangiogenic function in endothelial cells. *Blood*. 2010;115:4944-4950
IF: 9,060
36. Fichtlscherer S, De Rosa S, Fox H, Schwietz T, Fischer A, Liebetrau C, Weber M, Hamm CW, Roxel T, Muller-Ardogan M, Bonauer A, Zeiher AM, **Dimmeler S**. Circulating microRNAs in patients with coronary artery disease. *Circ Res*. 2010;107:677-684
IF: 11,861
37. Yoon CH, Koyanagi M, Iekushi K, Seeger F, Urbich C, Zeiher AM, Dimmeler S. Mechanism of improved cardiac function after bone marrow mononuclear cell therapy: role of cardiovascular lineage commitment. *Circulation*. 2010;121:2001-2011
IF:15,202
38. Boeckel JN, Guarani V, Koyanagi M, Roewe T, Lengeling A, Schermuly RT, Gellert P, Braun T, Zeiher A, **Dimmeler S**. Jumonji domain-containing protein 6 (Jmjd6) is required for angiogenic sprouting and regulates splicing of VEGF-receptor 1. *Proc Natl Acad Sci U S A*. 2011;108:3276-3281
IF: 9,737
39. Boon RA, Seeger T, Heydt S, Fischer A, Hergenreider E, Horrevoets AJ, Vinciguerra M, Rosenthal N, Sciacca S, Pilato M, van Heijningen P, Essers J, Brandes RP, Zeiher AM, **Dimmeler S**. MicroRNA-29 in Aortic Dilatation: Implications for Aneurysm Formation. *Circ Res*. 2011;109:1115-1119
IF: 11,861
40. Kaluza D, Kroll J, Gesierich S, Yao TP, Boon RA, Hergenreider E, Tjwa M, Rossig L, Seto E, Augustin HG, Zeiher AM, **Dimmeler S***, Urbich C*. Class IIb HDAC6 regulates endothelial cell migration and angiogenesis by deacetylation of cortactin. *EMBO J*. 2011;30:4142-4156 * contributed equally
IF: 9,822
41. De Rosa S, Fichtlscherer S, Lehmann R, Assmus B, **Dimmeler S***, Zeiher AM*. Transcoronary concentration gradients of circulating microRNAs. *Circulation*. 2011;124:1936-1944 * contributed equally
IF:15,202
42. Guarani V, Deflorian G, Franco CA, Kruger M, Phng LK, Bentley K, Toussaint L, Dequiedt F, Mostoslavsky R, Schmidt MH, Zimmermann B, Brandes RP, Mione M, Westphal CH, Braun T, Zeiher AM, Gerhardt H, **Dimmeler S**, Potente M. Acetylation-dependent regulation of endothelial Notch signalling by the SIRT1 deacetylase. *Nature*. 2011;473:234-238
IF: 38,597
43. Hergenreider E, Heydt S, Treguer K, Boettger T, Horrevoets AJ, Zeiher AM, Scheffer MP, Frangakis AS, Yin X, Mayr M, Braun T, Urbich C, Boon RA, **Dimmeler S**. Atheroprotective communication between endothelial cells and smooth muscle cells through miRNAs. *Nature Cell Biology*. 2012;14:249-256
IF:20,767
44. Iekushi K, Seeger F, Assmus B, Zeiher AM, **Dimmeler S**. Regulation of cardiac microRNAs by bone marrow mononuclear cell therapy in myocardial infarction. *Circulation*. 2012;125:1765-1773
IF:15,202
45. Urbich C, Kaluza D, Fromel T, Knau A, Bennewitz K, Boon RA, Bonauer A, Doebele C, Boeckel JN, Hergenreider E, Zeiher AM, Kroll J, Fleming I, **Dimmeler S**. MicroRNA-27a/b controls endothelial cell repulsion and angiogenesis by targeting semaphorin 6A. *Blood*. 2012;119:1607-1616
IF: 9,060
46. Xu Q, Seeger FH, Castillo J, Iekushi K, Boon RA, Farcas R, Manavski Y, Li YG, Assmus B, Zeiher AM, **Dimmeler S**. Micro-RNA-34a Contributes to the Impaired Function of Bone Marrow-Derived Mononuclear Cells From Patients With Cardiovascular Disease. *J Am Coll Cardiol*. 2012;59:2107-2117
47. IF: 14.086

48. Assmus B, Walter DH, Seeger FH, Leistner DM, Steiner J, Ziegler I, Lutz A, Khaled W, Klotsche J, Tonn T, **Dimmeler S**, Zeiher AM. Effect of shock wave-facilitated intracoronary cell therapy on LVEF in patients with chronic heart failure: the CELLWAVE randomized clinical trial. *JAMA : the journal of the American Medical Association*. 2013;309:1622-1631
IF: 29,978
49. Hinkel R, Penzkofer D, Zuhlke S, Fischer A, Husada W, Xu QF, Baloch E, van Rooij E, Zeiher AM, Kupatt C, **Dimmeler S**. Inhibition of microRNA-92a protects against ischemia/reperfusion injury in a large-animal model. *Circulation*. 2013;128:1066-1075
IF:15,202
51. Schafer F, Wagner J, Knau A, Dimmeler S, Heckel A. Regulating Angiogenesis with Light-Inducible AntimiRs. *Angewandte Chemie (International ed. in English)*. 2013;52:13558-13561
IF: 13,734
52. Dirx E, Gladka MM, Philippen LE, Armand AS, Kinet V, Leptidis S, El Azzouzi H, Salic K, Bourajaj M, da Silva GJ, Olieslagers S, van der Nagel R, de Weger R, Bitsch N, Kisters N, Seyen S, Morikawa Y, Chanoine C, Heymans S, Volders PG, Thum T, **Dimmeler S**, Cserjesi P, Eschenhagen T, da Costa Martins PA, De Windt LJ. Nfat and miR-25 cooperate to reactivate the transcription factor Hand2 in heart failure. *Nature Cell Biology*. 2013;15:1282-1293
IF:20,767
53. Boon RA, Iekushi K, Lechner S, Seeger T, Fischer A, Heydt S, Kaluza D, Treguer K, Carmona G, Bonauer A, Horrevoets AJ, Didier N, Girmatsion Z, Biliczki P, Ehrlich JR, Katus HA, Muller OJ, Potente M, Zeiher AM, Hermeking H, **Dimmeler S**. MicroRNA-34a regulates cardiac ageing and function. *Nature*. 2013;495:107-110
IF: 38,597

Publications

1. **Dimmeler S.**, Brüne B., Ullrich V. (1991) Ebselen prevents inositol (1,4,5)-trisphosphate binding to its receptor. *Biochem. Pharmacol*, 42:1151-1153
2. **Dimmeler S.**, Brüne B. (1991) L-arginine stimulates an endogenous ADP-ribosyltransferase. *Biochem. Biophys. Res. Commun*, 178:848-855
3. Brüne B., **Dimmeler S.**, Lapetina E.G. (1992) NADPH: A stimulatory cofactor for nitric oxide-induced ADP-ribosylation reaction. *Biochem. Biophys. Res. Commun*, 182:1166-1171
4. **Dimmeler S.**, Lottspeich F., Brüne B. (1992) Nitric oxide causes ADP-ribosylation and inhibition of glyceraldehyde-3-phosphate dehydrogenase. *J. Biol. Chem*, 267:16771-16774
5. **Dimmeler S.**, Brüne B. (1992) Characterization of a nitric oxide catalysed ADP-ribosylation of glyceraldehyde-3-phosphate dehydrogenase. *Eur. J. Biochem*, 210:305-310
6. **Dimmeler S.** and Brüne B. (1993) Nitric oxide preferentially stimulates auto-ADP-ribosylation of glyceraldehyde-3-phosphate dehydrogenase compared to alcohol or lactate dehydrogenase. *FEBS Lett*, 315:21-24
7. **Dimmeler S.**, Ankarcona M., Nicotera P., Brüne B. (1993) Exogenous NO-generation or IL-1 β induced intracellular NO production stimulate inhibitory auto-ADP-ribosylation of glyceraldehyde-3-phosphate dehydrogenase in RINm5F-cells. *J. of Immunol*, 150:2964-2971
8. **Dimmeler S.**, Meßmer UK., Tiegs G., Brüne B. (1994) Down-regulation of glyceraldehyde-3-phosphate dehydrogenase in LPS-treated mice - possible involvement of a nitric oxide stimulated ADP-ribosylation. *Eur. J. Pharmacol*, 267:105-112
9. **Dimmeler S.**, Lechleuthner A., Auweiler M., Troost C., Nagelschmidt M., Neugebauer E. (1995) Effect of H₁-antagonism on cardiovascular, pulmonary and immunological dysfunction in porcine endotoxic shock. *Shock*, 3:416-421
10. **Dimmeler S.**, Brinkmann S., Neugebauer E. (1995) Endotoxin induced changes of endothelial cell viability and permeability: Protective effect of the 21-aminosteroid. *Eur. J. Pharmacol.*, 287:257-261
11. **Dimmeler S.**, Kum C.K., Troost C., Auweiler M., Lechleuthner A., Nagelschmidt M., Neugebauer E. (1996) H₁-Antagonism improves intestinal mucosal pH and heart function in porcine hypodynamic endotoxic shock. *Shock*, 5:213-216
12. Haendeler J., Meßmer U., Brüne B., Neugebauer E., **Dimmeler S.** (1996) Endotoxin leads to apoptosis in vivo and reduces Bcl-2. *Shock*, 6:405-409
13. Grellner W., Madea B., Kruppenbacher JP., **Dimmeler S.** (1996) Interleukin-1a and N-formyl-methionyl-leucyl-phenyl-alanine (FMLP) as potential inducers of supravital chemotaxis. *Int. J. Leg. Med.*, 109:130-133
14. Matysiak-Scholze U., **Dimmeler S.**, Nehls M. (1996) Dextran blue as an aid for DNA precipitation and gel loading. *Trends in Genetics*, Technical Tips Online (<http://www.elsevier.com/locate/tto>)
15. Haendeler J., Zeiher AM., **Dimmeler S.** (1996) Vitamin C and E prevent lipopolysaccharide-induced apoptosis in human endothelial cells by modulation of Bcl-2 and Bax. *Eur. J. Pharmacol*, 317:407-411
16. **Dimmeler S.**, Haendeler J., Rippmann V., Nehls M., Zeiher AM. (1996) Shear stress inhibits apoptosis of human endothelial cells. *FEBS Lett*, 399:71-74
17. **Dimmeler S.**, Haendeler J., Nehls M., Zeiher AM. (1997) Suppression of apoptosis by nitric oxide via inhibition of interleukin-1 β -converting enzyme (ICE)-like and cysteine protease protein (CPP-32)-like proteases. *J. Exp. Med*, 185:601-607
18. **Dimmeler S.**, Haendeler J., Galle J., Zeiher AM. (1997) Oxidized Low density lipoprotein induces apoptosis of human endothelial cells by activation of CPP32-like proteases: A mechanistic clue to the „response to injury“ hypothesis. *Circulation*, 95:1760-1763
19. Haendeler J., Weiland U., Zeiher AM., **Dimmeler S.** (1997) Effects of redox-related congeners of NO on apoptosis and caspase-3 activity. *Nitric Oxide*, 1:282-293
20. Walter D.H., Schächinger V., Elsner M., **Dimmeler S.**, Zeiher AM. (1997) Platelet Glycoprotein IIIa polymorphism is associated with increased risk of coronary stent thrombosis. *Lancet*, 350:1217-1219
21. Hermann C., Zeiher AM., **Dimmeler S.** (1997) Shear stress inhibits H₂O₂-induced apoptosis of human endothelial cells by modulation of glutathion redox cycle and nitric oxide synthase. *Arterioscl Thromb Vasc Biol*, 17:3588-3593
22. **Dimmeler S.**, Rippmann V., Weiland U., Haendeler J., Zeiher AM. (1997) Angiotensin II induces apoptosis of human endothelial cells - Protective effect of nitric oxide. *Circ Res*, 81:970-977
23. **Dimmeler S.**, Haendeler J., Sause A., Nehls M., Zeiher AM. (1998) Nitric oxide inhibits APO-1/Fas-mediated cell death, *Cell Growth & Diff*, 9:415-422
24. **Dimmeler S.**, Assmus B., Hermann C., Zeiher AM. (1998) Fluid shear stress stimulates phosphorylation of Akt in human endothelial cells - involvement in suppression of apoptosis. *Circ Res*, 83:334-342

25. Walter D.H., Galle J., Zeiher AM., **Dimmeler S.** (1998) Cyclosporine A inhibits apoptosis of human endothelial cells by preventing the release of cytochrome C from the mitochondria. *Circulation*, 98:1153-1157
26. Grellner W., **Dimmeler S.**, Madea B. (1998) Immunohistochemical detection of fibronectin in postmortem incised wounds of porcine skin. *Forensic Sci Int* 97:109-116
27. Galle J., Schneider R., Heinloth A., Wanner C., Galle P.R., Conzelmann E., **Dimmeler S.**, Heermeier K. (1998) LP(a) induces apoptosis in cultured human endothelial cells and in intact rabbit aorta more potently than LDL - role of oxidative stress. *Kidney International*, 55:1450-1461
28. Rössig, L., Fichtlscherer B., Breitschopf K., Haendeler J., Zeiher AM., Mülsch A., **Dimmeler S.** (1999) Nitric oxide inhibits caspase-3 via S-nitrosation in vivo. *J Biol Chem*, 274:6823-6826
29. **Dimmeler S.**, Haendeler J., Breitschopf K., Zeiher AM. (1999) Selective ubiquitin-dependent degradation of Bcl-2 links the proteasome complex with apoptosis signaling via the MAP-kinase pathway. *J.Exp.Med.* 189:1815-1822
30. **Dimmeler S.**, Hermann C., Galle J., Zeiher AM. (1999) Upregulation of superoxide dismutase and nitric oxide synthase synergize to mediate the apoptosis-suppressive effects of shear stress on endothelial cells, *Arterioscl Thromb Vasc Biol*, 19:656-664
31. **Dimmeler S.**, Fleming I., Fißlthaler B., Hermann C., Busse R., Zeiher AM. (1999) Activation of the nitric oxide synthase in endothelial cells via Akt-dependent phosphorylation *Nature* 399:601-605
32. Heermeier, K., Schneider R., Heinloth A., Wanner C., **Dimmeler S.**, Galle J. (1999) Oxidative stress mediates apoptosis induced by oxidized low-density lipoprotein and oxidized lipoprotein. *Kidney Int* 56:1310-1312
33. Nagelschmidt M., Fu ZX., Saad S., **Dimmeler S.**, Neugebauer E. (1999) Preoperative high dose methylprednisolone improves patients outcome after abdominal surgery. *Eur. J. Surg.* 165:971-978
34. Weiland U., Haendeler J., Ihling C., Albus U., Scholz W., Ruetten H., Zeiher AM., **Dimmeler S.** (2000) Inhibition of nitric oxide synthase potentiates ischemia/reperfusion-induced myocardial apoptosis via a caspase-3 dependent pathway, *Cardiovasc. Res.*, 45: 671-678
35. Hermann C., Assmus B., Zeiher AM., **Dimmeler S.** (2000) Insulin-mediated inhibition of protein kinase Akt: a potent survival signaling cascade for endothelial cells. *Arterioscl. Thromb. Vasc. Biol.* 20: 402-409
36. Breitschopf K., Haendeler J., Malchow P., Zeiher AM., **Dimmeler S.** (2000) Posttranscriptional modification of Bcl-2: Molecular characterization of the involved signaling pathway. *Mol Cell Biol*, 20:1886-1896
37. Urbich C., Fritzenwanger F., Zeiher AM., **Dimmeler S.** (2000) Laminar shear stress up-regulates the complement inhibitory protein clusterin: a novel potent defence mechanism against complement-induced endothelial cell activation. *Circulation*, 101:352-355
38. Fißlthaler B., **Dimmeler S.**, Hermann, C., Busse R., Fleming I. (2000) Phosphorylation and activation of the endothelial nitric oxide synthase by fluid shear stress *Acta Physiol Scand*, 168:81-88
39. Jormsjö S., Ye S., Moritz J., Walter D.H., **Dimmeler S.**, Zeiher AM., Henney A., Hamsten A., Eriksson P. (2000) Differential regulation of matrix metalloelastase gene activity influences coronary artery luminal dimensions in diabetic patients with manifest coronary disease. *Circ Res.*, 86:998-1003
40. Fichtlscherer S., Rosenberger G., Walter D.H., Breuer S., **Dimmeler S.**, Zeiher AM. (2000) Elevated C-reactive protein levels and impaired endothelial vasoreactivity in patients with coronary artery disease. *Circulation*, 102:1000-1006
41. Breitschopf K., Zeiher AM., **Dimmeler S.** (2000) Ubiquitin-mediated degradation of the proapoptotic active form of Bid: A functional consequence on apoptosis induction. *J Biol Chem*, 275:21648-52
42. **Dimmeler S.**, Dernbach E., Zeiher AM. (2000) Phosphorylation of the endothelial nitric oxide synthase at Ser1177 is required for VEGF-induced endothelial cell migration. *FEBS Lett*, 477:258-262
43. Rössig L., Haendeler J., Hermann C., Malchow P., Zeiher AM., **Dimmeler S.** (2000) Transcriptional downregulation of MKP-3 mRNA by nitric oxide: involvement in endothelial cell protection from apoptosis. *J Biol Chem*, 275:25502-25507
44. Urbich C. Walter D.H., Zeiher AM., **Dimmeler S.** (2000) Laminar shear stress up-regulates integrin expression: role in endothelial cell adhesion and apoptosis. *Circ Res.*, 87:683-689
45. Jung F., Haendeler J., Goebel C., Zeiher AM., **Dimmeler S.** (2000) Growth factor induced PI3K/Akt-phosphorylation in smooth muscle cells: induction of cell proliferation and inhibition of cell death. *Cardiovas. Res.*, 48:148-157
46. Vasa M., Breitschopf K., Zeiher AM., **Dimmeler S.** (2000) Nitric oxide inhibits endothelial cell senescence and activates telomerase. *Circ. Res.* 87:540-542
47. Badorff C., Fichtlscherer B., Thoads RE., Zeiher AM., Muelsch A., **Dimmeler S.**, Knowlton KU. (2000) Nitric oxide inhibits dystrophin cleavage by coxsackieviral protease 2A through S-nitrosylation: a protective mechanism against enteroviral cardiomyopathy. *Circulation*, 102:2276-2281
48. Rössig L., Haendeler J., Mallat Z., Hugel B., Freyssinet J.-M., Tedgui A., **Dimmeler S.**, Zeiher AM. (2000) Congestive heart failure induces endothelial cell apoptosis: protective role of carvedilol. *JACC*, 36:2081-2089

49. Schächinger V, Britten MB., **Dimmeler S.**, Zeiher AM. (2001) NADH/NADPH oxidase p22 phox gene polymorphism is associated with improved coronary endothelial vasodilator function. *Eur. Heart J*, 22:96-101
50. Chavakis E., Dernbach E., Hermann C., Mondorf UF., Zeiher AM., **Dimmeler S.** (2001) Oxidized LDL inhibits VEGF-induced endothelial cell migration by an inhibitory effect on the Akt / eNOS pathway. *Circulation*, 16:2102-2107
51. Breitschopf K., Zeiher, AM, **Dimmeler S.** (2001) Pro-atherogenic factors induce telomerase inactivation in endothelial cells through an Akt-dependent mechanism. *FEBS Lett.* 493: 21-25
52. Walter DH., Schächinger V., Elsner M., Mach S., **Dimmeler S.**, Auch-Schwelk W., Zeiher AM. (2001) Statin therapy is associated with reduced restenosis rates after coronary stent implantation in carriers of the PI(A2) allele of the platelet glycoprotein IIIa gene. *Eur Heart*, 22:587-595
53. Michelsen KS., Aicher A., Mohaupt M., Hartung H., **Dimmeler S.**, Kirschning C.J., Schumann RR. (2001) The role of toll-like receptors (TLRs) in bacteria-induced maturation of murine dendritic cells – PGN and LTA are inducers of DC maturation and require TLR2. *J Biol Chem*, 25680-25686
54. Fleming I., Fisslthaler B., **Dimmeler S.**, Busse R. (2001) Phosphorylation of Thr 495 regulates Calcium/calmodulin-dependent eNOS activity. *Circ Res*, 88:E68-75
55. Vasa M., Fichtlscherer S., Adler K., Aicher A., Martin H., Zeiher AM., **Dimmeler S.** (2001) Increase in circulating endothelial progenitor cells by statin therapy in patients with stable coronary artery disease. *Circulation*, 103:2885-2890
56. Rössig L., Jadidi A., Urbich C., Badorff C., Zeiher AM., **Dimmeler S.** (2001) Akt-dependent phosphorylation of p21 (Cip-1) regulates PCNA binding and proliferation of endothelial cells. *Mol Cell Biol*, 21: 5644-5657
57. **Dimmeler S.**, Aicher A., Vasa M., Mildner-Rihm C., Adler K., Tiemann M., Ruetten H., Martin H., Zeiher AM. (2001). HMG-CoA-reductase inhibitors (statins) increase endothelial progenitor cells via the PI3K/Akt pathway. *J Clin Invest*, 108:391-397
58. Vasa M., Fichtlscherer S., Aicher A., Adler K., Urbich C., Martin H., Zeiher AM., **Dimmeler S.** (2001). Number and migratory activity of circulating endothelial progenitor cells inversely correlate with risk factors for coronary artery disease. *Circ Res*, 89:E1-7
59. Hoffmann J., Haendeler J., Zeiher AM., **Dimmeler S.** (2001). TNF{alpha} and oxLDL reduce protein S-nitrosylation in endothelial cells. *J Biol Chem.*, 276:41383-41387
60. Jung F., Weiland U., Johns RA., Ihling C., **Dimmeler S.** (2001). Chronic hypoxia induces apoptosis in cardiac myocytes: a possible role for Bcl-2-like proteins. *Biochem Biophys Res Commun.*, 286:419-425
61. Rössig L., Hoffmann J., Hugel B., Mallat Z., Haase A., Freyssinet J-M., Tedgui A., Aicher A., Zeiher AM., **Dimmeler S.** (2001). Vitamin C inhibits endothelial cell apoptosis in congestive heart failure. *Circulation*, 104:2182-2187
62. Hoffmann J., Haendeler J., Aicher A., Rössig L., Vasa M., Zeiher AM, **Dimmeler S.** (2001). Aging enhances the sensitivity of endothelial cells towards apoptotic stimuli: Important role of nitric oxide. *Circ Res*, 89:709-715
63. Du XL., Edelstein D., **Dimmeler S.**, Ju Q., Sui C., Brownlee M. (2001). Hyperglycemia inhibits endothelial nitric oxide synthase activity by altering its post-translational modification at the Akt site of the eNOS Protein. *J. Clin. Invest.*, 108:1341-1348
64. Ruetten H., Badorff C., Ihling C., Zeiher AM., **Dimmeler S.** (2001). Inhibition of caspase-3 improves contractile recovery of stunned myocardium independent of apoptosis inhibitory effects. *JACC*, 38:2063-2070
65. Urbich C., Mallat Z., Tedgui A., Clauss M., Zeiher AM., **Dimmeler S.** (2001) Upregulation of TRAF3 by shear stress blocks CD40-mediated endothelial activation. *J Clin Invest*, 108:1451-1458
66. Fichtlscherer S., Rössig R., Breuer S., Vasa M., **Dimmeler S.**, Zeiher AM. (2001) TNF Antagonism with etanercept improves systemic endothelial vasoreactivity in patients with advanced heart failure. *Circulation*, 104:3023-3025
67. Urbich C., Dernbach E., Reissner A. Vasa M., Zeiher AM., **Dimmeler S.** (2002) Shear stress-induced endothelial cell migration involves integrin signaling via the fibronectin receptor subunits $\alpha 5$ and $\beta 1$. *Arterioscl Thromb Vasc Biol*, 22:69-75
68. Badorff C., Ruetten H., Mueller S., Gehring D., Jung F., Ihling C., Zeiher AM., **Dimmeler S.** (2002). Fas receptor signaling inhibits GSK3 β in cardiomyocytes and is required for pressure overload-induced hypertrophy. *J. Clin Invest.*, 109:373-81
69. Urbich C., Reissner A., Chavakis E., Dernbach E., Haendeler J., Fleming I., Zeiher AM., Kaszkin M., **Dimmeler S.** (2002) Dephosphorylation of endothelial nitric oxide synthase contributes to the anti-angiogenic effects of endostatin. *FASEB J*, 16:706-708
70. Rössig L., Badorff C., Holzmann Y., Zeiher AM., **Dimmeler S.** (2002) Glycogen Synthase Kinase-3 Couples Akt-dependent Signaling to the Regulation of p21 cip1 Degradation. *J Biol Chem*, 277:9684-9689

71. Teupe C., Richter S., Fisslthaler B., Randriamboavonjy V., Ihling C., Fleming I., Busse R., Zeiher AM., **Dimmeler S.** (2002) Vascular gene transfer of phospho-mimetic endothelial nitric oxide synthase (S1177D) using ultrasound-enhanced destruction of plasmid-loaded microbubbles improves vasoreactivity. *Circulation* 105:1104-1109
72. Urbich C., Dernbach E., Zeiher AM., **Dimmeler S.** (2002) Double-edged role of statins in angiogenesis signaling. *Circ Res* 90:737-744
73. Burger-Kentischer A., Goebel H., Seiler R., Friedrich G., Schaefer HE., **Dimmeler S.**, Kleemann R, Berhagen J, Ihling C (2002) Expression of macrophage migration inhibitory factor in different stages of human atherosclerosis. *Circulation* 105:1561-1566
74. Rössig L., Hermann C., Haendeler J., Assmus B., Zeiher AM., **Dimmeler S.** (2002) Angiotensin II-induced upregulation of MAP kinase phosphatase-3 mRNA levels mediates endothelial cell apoptosis. *Basic Res Cardiol* 97:1-8
75. Badorff C., Muelsch A., Fichtlscherer B., Zeiher AM., **Dimmeler S.** (2002) Selective delivery of Nitric Oxide to a cellular target: A pseudosubstrate-coupled dinitrosyl iron complex inhibits the enteroviral protease 2A. *Nitric Oxide* 6:305-312
76. Assmus B., Schächinger V., Teupe C., Britten M., Lehmann R., Dobert N., Grunwald F., Aicher A., Urbich C., Martin H., Hoelzer D., **Dimmeler S.***, Zeiher AM.* (2002) Transplantation of Progenitor Cells and Regeneration Enhancement in Acute Myocardial Infarction (TOPCARE-AMI). *Circulation*; 106:3009-3017 (* corresponding authors)
77. Haendeler J., Hoffmann J., Tischler V., Berk BC., Zeiher AM., **Dimmeler S.** (2002) Redox regulatory and anti-apoptotic functions of thioredoxin depend on S-nitrosylation at cysteine 69. *Nat Cell Biol*, 4:743-9.
78. Jung F., Haendeler J., Hoffmann J., Reissner A., Dernbach E., Zeiher AM., **Dimmeler S.** (2002) Hypoxic induction of the hypoxia-inducible factor is mediated via the adaptor protein Shc in endothelial cells. *Circ Res* 91:38-45
79. Urbich C., Dernbach E., Aicher A., Zeiher AM., **Dimmeler S.** (2002) CD 40 ligand inhibits endothelial cell migration by increasing production of endothelial reactive oxygen species. *Circulation* 106:981-986
80. Heeschen C., Weis M., Aicher A., **Dimmeler S.**, Cooke JP (2002) A novel angiogenic pathway mediated by non-neuronal nicotinic acetylcholine receptors. *J Clin Invest* 110:527-536
81. Urbich C., Stein M., Reisinger K., Kaufmann R., **Dimmeler, S.**, Gille, J. (2003) Fluid shear stress-induced transcriptional activation of the vascular endothelial growth factor receptor-2 gene requires Sp1-dependent DNA binding. *FEBS Lett*, 535:87-93
82. Heeschen C., **Dimmeler S.**, Hamm CW., Boersma E., Zeiher AM., Simoons ML. (2003) Prognostic significance of angiogenic growth factor serum levels in patients with acute coronary syndromes. *Circulation*, 107:524-30
83. Aicher A., Heeschen C., Mohaupt M., Cooke J.P., Zeiher AM., **Dimmeler S.** (2003) Nicotine strongly activates dendritic cell-mediated adaptive immunity: potential role for progression of atherosclerotic lesions. *Circulation*, 107:604-11
84. Kupatt C., Hinkel R., Vachenauer R., Horstkotte J., Raake P., Sandner T., Kreuzpointner R., Muller F., **Dimmeler S.**, Feron O., Boekstegers P. (2003) VEGF165 transfection decreases postischemic NF-kappaB-dependent myocardial reperfusion injury in vivo: role of eNOS phosphorylation. *FASEB J*, 17:705-707
85. Badorff C., Brandes RP., Popp R., Rupp S., Urbich C., Aicher A., Fleming I., Busse R., Zeiher AM., **Dimmeler, S.** (2003) Transdifferentiation of blood-derived human adult endothelial progenitor cells into functionally active cardiomyocytes. *Circulation*, 107:1024-32
86. Haendeler J., Hoffmann J., Rahman S., Zeiher AM., **Dimmeler, S.** (2003) Regulation of telomerase activity and anti-apoptotic function by protein-protein interaction and phosphorylation. *FEBS Lett*, 536:180-6
87. Heeschen C., **Dimmeler S.**, Hamm CW., van den Brand MJ., Boersma E., Zeiher AM., Simoons ML. (2003) Soluble CD40 ligand in acute coronary syndromes. *N Engl J Med*, 348:1104-11
88. Heeschen C., **Dimmeler S.**, Hamm CW., Fichtlscherer S., Boersma E., Simoons ML., Zeiher AM. (2003) Serum Level of the Antiinflammatory Cytokine Interleukin-10 Is an Important Prognostic Determinant in Patients with Acute Coronary Syndromes. *Circulation*, 107:2109-2114
89. Assmus B., Urbich C., Aicher A., Hofmann WK., Haendeler J., Rössig L., Spyridopoulos I., Zeiher AM., **Dimmeler S.** (2003) HMG-CoA Reductase Inhibitors Reduce Senescence and Increase Proliferation of Endothelial Progenitor Cells via Regulation of Cell Cycle Regulatory Genes. *Circ Res*, 92:1049-55
90. Heeschen C., Aicher A., Lehmann R., Fichtlscherer S., Vasa M., Urbich C., Mildner-Rihm C., Martin H., Zeiher AM., **Dimmeler S.** (2003) Erythropoietin is a potent physiological stimulus for endothelial progenitor cell mobilization. *Blood*, 102:1340-1346 (Erratum in: *Blood*. 2004 Jun 15;103(12):4388)
91. Aicher A., Brenner W., Zuhayra M., Badorff C., Massoudi S., Assmus B., Eckey T., Henze E., Zeiher AM., **Dimmeler S.** (2003) Assessment of the Tissue Distribution of Transplanted Human Endothelial Progenitor Cells by Radioactive Labeling. *Circulation*, 107:2134-2139

92. Haendeler J., Hoffmann J., Brandes RP., Zeiher AM., **Dimmeler, S.** (2003) Hydrogen peroxide triggers nuclear export of telomerase reverse transcriptase via Src kinase family-dependent phosphorylation of tyrosine 707. *Mol Cell Biol*, 23:4598-4610
93. von Aulock S., Schroder NW., Gueinzus K., Traub S., Hoffmann S., Graf K., **Dimmeler S.**, Hartung T., Schumann RR., Hermann C. (2003) Heterozygous toll-like receptor 4 polymorphism does not influence lipopolysaccharide-induced cytokine release in human whole blood. *J Infect Dis*, 188:938-43
94. Hoffmann J., **Dimmeler S.**, Haendeler J. (2003) Shear stress increases the amount of S-nitrosylated molecules in endothelial cells: important role for signal transduction. *FEBS Lett*, 551:153-8
95. Aicher A., Heeschen C., Mildner-Rihm C., Urbich C., Ihling C., Technau-Ihling K., Zeiher AM., **Dimmeler, S** (2003) Essential role of endothelial nitric oxide synthase for mobilization of stem and progenitor cells. *Nat Med*, 9:1370-1376 (Erratum in: Nat Med. 2004 Sep;10(9):999)
96. Britten MB., Abolmaali ND., Assmus B., Lehmann R., Honold J., Schmitt J., Vogl TJ., Martin H., Schächinger V., **Dimmeler S.**, Zeiher AM. (2003) Infarct remodeling after intracoronary progenitor cell treatment in patients with acute myocardial infarction (TOPCARE-AMI): mechanistic insights from serial contrast-enhanced magnetic resonance imaging. *Circulation*, 108:2212-8
97. Urbich C., Heeschen C., Aicher A., Dernbach E., Zeiher AM., **Dimmeler, S.** (2003) Relevance of monocytic features for neovascularization capacity of circulating endothelial progenitor cells. *Circulation*, 108:2511-1516 (Erratum in: Circulation 2005 Apr 5;111(13):1718)
98. Henrich D., Hahn P., Wahl M., Wilhelm K., Dernbach E., **Dimmeler S.**, Marzi I. (2004) Serum Derived from Multiple Trauma Patients Promotes the Differentiation of Endothelial Progenitor Cells In Vitro: Possible Role of Transforming Growth Factor-beta1 and Vascular Endothelial Growth Factor165. *Shock* 21:13-6
99. Rupp S., Badorff C., Koyanagi M., Urbich C., Fichtlscherer S., Aicher A., Zeiher AM., **Dimmeler S.** (2004) Statin therapy in patients with coronary artery disease improves the impaired endothelial progenitor cell differentiation into cardiomyogenic cells. *Basic Res Cardiol*, 99:61-8
100. Heeschen C., **Dimmeler S.**, Fichtlscherer S., Hamm CW., Berger J., Simoons ML., Zeiher AM. (2004) Prognostic value of placental growth factor in patients with acute chest pain. *JAMA*, 291:435-41
101. Fichtlscherer S., **Dimmeler S.**, Breuer S., Busse R., Zeiher AM., Fleming I. (2004) Inhibition of cytochrome P450 2C9 improves endothelium-dependent, nitric oxide-mediated vasodilatation in patients with coronary artery disease. *Circulation*, 109:178-83
102. Bruhl T., Heeschen C., Aicher A., Jadidi AS., Haendeler J., Hoffmann J., Schneider MD., Zeiher AM., **Dimmeler S.**, Rossig L. (2004) p21Cip1 Levels Differentially Regulate Turnover of Mature Endothelial Cells and Endothelial Progenitor Cells and In Vivo Neovascularization. *Circ Res*, 94:686-92
103. Bruhl T., Urbich C., Aicher D., Acker-Palmer A., Zeiher AM., **Dimmeler S.** (2004) Homeobox A9 Transcriptionally Regulates the EphB4 Receptor to Modulate Endothelial Cell Migration and Tube Formation. *Circ Res*, 94:743-51
104. Haendeler J., Hoffmann J., Diehl JF., Vasa M., Spyridopoulos I., Zeiher AM., **Dimmeler S.** (2004) Antioxidants Inhibit Nuclear Export of Telomerase Reverse Transcriptase and Delay Replicative Senescence of Endothelial Cells. *Circ Res*, 94:768-75
105. Heeschen C., Lehmann R., Honold J., Assmus B., Aicher A., Walter DH., Martin H., Zeiher AM., **Dimmeler S.** (2004) Profoundly Reduced Neovascularization Capacity of Bone Marrow Mononuclear Cells Derived From Patients with Chronic Ischemic Heart Disease. *Circulation*, 109:1615-22
106. Brenner W., Aicher A., Eckey T., Massoudi S., Zuhayra M., Koehl U., Heeschen C., Kampen W. U., Zeiher AM., **Dimmeler S.**, Henze E. (2004) 111In-labeled CD34+ hematopoietic progenitor cells in a rat myocardial infarction model. *J Nucl Med*, 45:512-8
107. Döbert N., Britten M., Assmus B., Berner U., Menzel C., Lehmann R., Hamscho N., Schächinger V., **Dimmeler S.**, Zeiher AM., Grunwald F. (2004) Transplantation of progenitor cells after reperfused acute myocardial infarction: evaluation of perfusion and myocardial viability with FDG-PET and thallium SPECT. *Eur J Nucl Med Mol Imaging*, 31:1146-51
108. Dernbach E., Urbich C., Brandes RP., Hofmann WK., ZeiherAm., **Dimmeler S.** (2004) Anti-oxidative stress-associated genes in circulating progenitor cells: evidence for enhanced resistance against oxidative stress. *Blood*, 104:3591-3597
109. Haendeler J., Hoffmann J., Zeiher AM., **Dimmeler S.** (2004) Antioxidant effects of statins via S-nitrosylation and activation of thioredoxin in endothelial cells: a novel vasculoprotective function of statins. *Circulation*, 110:856-61
110. Fichtlscherer S., Breuer S., Heeschen C., **Dimmeler S.**, Zeiher AM. (2004) Interleukin-10 serum levels and systemic endothelial vasoreactivity in patients with coronary artery disease. *J Am Coll Cardiol*, 44:44-9
111. Fichtlscherer S., Breuer S., Schächinger V., **Dimmeler S.**, Zeiher AM. (2004) C-reactive protein levels determine systemic nitric oxide bioavailability in patients with coronary artery disease. *Eur Heart J*, 25:1412-8
112. Rössig L., Fichtlscherer S., Heeschen C., Berger J., **Dimmeler S.**, Zeiher AM. (2004) The pro-apoptotic serum activity is an independent mortality predictor of patients with heart failure. *Eur Heart J*. 25:1620-5

113. Schächinger V., Assmus B., Britten MB., Honold J., Lehmann R., Teupe C., Abolmaali ND., Vogl T.J., Hofmann WK., Martin H., **Dimmeler S.**, Zeiher AM. (2004) Transplantation of progenitor cells and regeneration enhancement in acute myocardial infarction: final one-year results of the TOPCARE-AMI Trial. *J Am Coll Cardiol*, 44:1690-9
114. Spyridopoulos I., Haendeler J., Urbich C., Brummendorf TH., Oh H., Schneider MD., Zeiher Am., **Dimmeler S.** (2004) Statins enhance migratory capacity by upregulation of the telomere repeat-binding factor TRF2 in endothelial progenitor cells. *Circulation*, 110:3136-42
115. Haendeler J., Tischler V., Hoffmann J., Zeiher AM., **Dimmeler S.** (2004) Low doses of reactive oxygen species protect endothelial cells from apoptosis by increasing thioredoxin-1 expression. *FEBS Lett*, 577:427-33
116. Heeschen C., **Dimmeler S.**, Hamm CW., Fichtlscherer S., Simoons M. L., Zeiher AM. (2005) Pregnancy-associated plasma protein-A levels in patients with acute coronary syndromes: comparison with markers of systemic inflammation, platelet activation, and myocardial necrosis. *J Am Coll Cardiol*, 45:229-37
117. Chavakis E., Aicher A., Heeschen C., Sasaki KI., Kaiser R., El Makhfi N., Urbich C., Peters T., K. Scharffetter-Kochanek, Zeiher AM., Chavakis T., **S. Dimmeler** (2005) Role of {beta}2-integrins for homing and neovascularization capacity of endothelial progenitor cells. *J Exp Med*, 201:63-72
118. Koyanagi M., Haendeler J., Badorff C., Brandes RP., J. Hoffmann J., Pandur P., Zeiher AM., Kuhl M., **Dimmeler S.** (2005) Non-canonical Wnt signaling enhances differentiation of human circulating progenitor cells to cardiomyogenic cells. *J Biol Chem*, 280:16838-16842
119. Seeger FH., Haendeler J., Walter DH., Rochwalsky U., Reinhold J., Urbich C., Rossig L., Corbaz A., Chvatchko Y., Zeiher AM., **Dimmeler S.** (2005) p38 mitogen-activated protein kinase downregulates endothelial progenitor cells. *Circulation*, 111:1184-91
120. Urbich C., Knau A., Fichtlscherer S., Walter DH., Bruhl T., Potente M., Hofmann WK., de Vos S., Zeiher AM., **Dimmeler S.** (2005) FOXO-dependent expression of the proapoptotic protein Bim: pivotal role for apoptosis signaling in endothelial progenitor cells. *Faseb J*, 19:974-976
121. Urbich C., Heeschen C., Aicher A., Sasaki KI., Bruhl T., Farhadi MR., Vajkoczy P., Hofmann WK., Peters C., Pennacchio LA., Abolmaali ND., Chavakis E., Reinheckel T., Zeiher AM., **Dimmeler S.** (2005) Cathepsin L is required for endothelial progenitor cell-induced neovascularization. *Nat Med*, 11:206-213
122. Ruetten H., **Dimmeler S.**, Gehring D., Ihling C., Zeiher AM. (2005) Concentric left ventricular remodeling in endothelial nitric oxide synthase knockout mice by chronic pressure overload. *Cardiovasc Res*, 66:444-53
123. Koyanagi M., Brandes RP., Haendeler J., Zeiher AM., **Dimmeler S.** (2005) Cell-to-cell connection of endothelial progenitor cells with cardiac myocytes by nanotubes: a novel mechanism for cell fate changes? *Circ Res*, 96:1039-41
124. Lundberg GA., Kellin A., Samnegard A., Lundman P., Tornvall P., **Dimmeler S.**, Zeiher AM., Hamsten A., Hansson GK., Eriksson P. (2005) Severity of coronary artery stenosis is associated with a polymorphism in the CXCL16/SR-PSOX gene. *J Intern Med*, 257:415-22
125. Schmidt-Lucke C., Rossig L., Fichtlscherer S., Vasa M., Britten M., Kamper U., **Dimmeler S.**, Zeiher AM. (2005) Reduced number of circulating endothelial progenitor cells predicts future cardiovascular events: proof of concept for the clinical importance of endogenous vascular repair. *Circulation*, 111:2981-7
126. Rossig L., Urbich C., Bruhl T., Dernbach E., Heeschen C., Chavakis E., Sasaki K., Aicher D., Diehl F., Seeger F., Potente M., Aicher A., Zanetta L., Dejana E., Zeiher AM., **Dimmeler S.** (2005) Histone deacetylase activity is essential for the expression of HoxA9 and for endothelial commitment of progenitor cells. *J Exp Med*, 201:1825-35
127. Romagnani P., Annunziato F., Liotta F., Lazzeri E., Mazzinghi B., Frosali F., Cosmi L., Maggi L., Lasagni L., Scheffold A., Kruger M., **Dimmeler S.**, Marra F., Gensini G., Maggi E., Romagnani S. (2005) CD14+CD34low cells with stem cell phenotypic and functional features are the major source of circulating endothelial progenitors. *Circ Res*, 97:314-22
128. Potente M., Urbich C., Sasaki K., Hofmann WK., Heeschen C., Aicher A., Kollipara R., DePinho RA., Zeiher AM., **Dimmeler S.** (2005) Involvement of Foxo transcription factors in angiogenesis and postnatal neovascularization. *J Clin Invest*, 115:2382-92
129. Badorff C., Seeger FH., Zeiher AM., **Dimmeler S.** (2005) Glycogen synthase kinase 3beta inhibits myocardin-dependent transcription and hypertrophy induction through site-specific phosphorylation. *Circ Res*, 97:645-54
130. Urbich C., Aicher A., Heeschen C., Dernbach E., Hofmann WK., Zeiher, **Dimmeler S.** (2005) Soluble factors released by endothelial progenitor cells promote migration of endothelial cells and cardiac resident progenitor cells. *J Mol Cell Cardiol*, 39:733-42
131. Koyanagi M., Urbich C., Chavakis E., Hoffmann J., Rupp S., Badorff C., Zeiher AM., Starzinski-Powitz A., Haendeler J., **Dimmeler S.** (2005) Differentiation of circulating endothelial progenitor cells to a cardiomyogenic phenotype depends on E-cadherin. *FEBS Lett*, 579:6060-6
132. Walter DH., Haendeler J., Reinhold J., Rochwalsky U., Seeger F., Honold J., Hoffmann J., Urbich C., Lehmann R., Arenzana-Seisdesdos F., Aicher A., Heeschen C., Fichtlscherer S., Zeiher AM., **Dimmeler S.** (2005) Impaired CXCR4 signaling contributes to the reduced neovascularization capacity of endothelial progenitor cells from patients with coronary artery disease. *Circ Res*, 97:1142-51

133. Haendeler J., Popp R., Goy C., Tischler V., Zeiher AM., **Dimmeler S.** (2005) Cathepsin D and H2O2 stimulate degradation of thioredoxin-1: implication for endothelial cell apoptosis. *J Biol Chem*, 280:42945-51
134. Lenderink T., Heeschen C., Fichtlscherer S., **Dimmeler S.**, Hamm CW., Zeiher AM., Simoons ML., Boersma E. (2006) Elevated placental growth factor levels are associated with adverse outcomes at four-year follow-up in patients with acute coronary syndromes. *J Am Coll Cardiol*, 47:307-11
135. Fichtlscherer S., Schmidt-Lucke C., Bojunga S., Rossig L., Heeschen C., **Dimmeler S.**, Zeiher AM. (2006) Differential effects of short-term lipid lowering with ezetimibe and statins on endothelial function in patients with CAD: clinical evidence for 'pleiotropic' functions of statin therapy. *Eur Heart J*, 27:1182-90
136. Schachinger V., Assmus B., Honold J., Lehmann R., Hofmann WK., Martin H., **Dimmeler S.**, Zeiher AM. (2006) Normalization of coronary blood flow in the infarct-related artery after intracoronary progenitor cell therapy: intracoronary Doppler substudy of the TOPCARE-AMI trial. *Clin Res Cardiol*, 95:13-22
137. Honold J., Lehmann R., Heeschen C., Walter DH., Assmus B., Sasaki K., Martin H., Haendeler J., Zeiher AM., **Dimmeler S.** (2006) Effects of granulocyte colony stimulating factor on functional activities of endothelial progenitor cells in patients with chronic ischemic heart disease. *Arterioscler Thromb Vasc Biol*, 26:2238-43
138. Schächinger V., Erbs S., Elsasser A., Haberbosch W., Hambrecht R., Holschermann H., Yu J., Corti R., Mathey DG., Hamm CW., Suselbeck T., Assmus B., Tonn T., **Dimmeler S.**, Zeiher AM. (2006) Intracoronary bone marrow-derived progenitor cells in acute myocardial infarction. *N Engl J Med*, 355:1210-21
139. Assmus B., Honold J., Schächinger V., Britten MB., Fischer-Rasokat U., Lehmann R., Teupe C., Pistorius K., Martin H., Abolmaali ND., Tonn T., **Dimmeler S.**, Zeiher AM. (2006) Transcoronary transplantation of progenitor cells after myocardial infarction. *N Engl J Med*, 355:1222-32
140. Aicher A., Heeschen C., Sasaki K., Urbich C., Zeiher AM., **Dimmeler S.** (2006) Low-energy shock wave for enhancing recruitment of endothelial progenitor cells: a new modality to increase efficacy of cell therapy in chronic hind limb ischemia. *Circulation*, 114:2823-30
141. Sasaki K., Heeschen C., Aicher A., Ziebart T., Honold J., Urbich C., Rossig L., Koehl U., Koyanagi M., Mohamed A., Brandes RP., Martin H., Zeiher AM., **Dimmeler S.** (2006) Ex vivo pretreatment of bone marrow mononuclear cells with endothelial NO synthase enhancer AVE9488 enhances their functional activity for cell therapy. *Proc Natl Acad Sci U S A*, 103:14537-41
142. Schachinger V., Erbs S., Elsasser A., Haberbosch W., Hambrecht R., Holschermann H., Yu J., Corti R., Mathey DG., C. W. Hamm CW., Suselbeck T., Werner N., Haase J., Neuzner J., Germing A., Mark B., Assmus B., Tonn T., **Dimmeler S.**, Zeiher AM. (2006) Improved clinical outcome after intracoronary administration of bone-marrow-derived progenitor cells in acute myocardial infarction: final 1-year results of the REPAIR-AMI trial. *Eur Heart J*, 27:2775-83
143. Assmus B., Walter DH., Lehmann R., Honold J., Martin H., **Dimmeler S.**, Zeiher AM., Schachinger V. (2006) Intracoronary infusion of progenitor cells is not associated with aggravated restenosis development or atherosclerotic disease progression in patients with acute myocardial infarction. *Eur Heart J*, 27:2989-95
144. Schmidt-Lucke C., Aicher A., Romagnani P., Gareis B., Romagnani S., Zeiher A. M., **Dimmeler S.** (2007) Specific recruitment of CD4+CD25++ regulatory T cells into the allograft in heart transplant recipients. *Am J Physiol Heart Circ Physiol*, 292:H2425-31
145. Walter DH., U. Rochwalsky U., Reinhold J., Seeger F., Aicher A., Urbich C., Spyridopoulos I., Chun J., Brinkmann V., Keul P., Levkau B., Zeiher AM., **Dimmeler S.**, Haendeler J. (2007) Sphingosine-1-phosphate stimulates the functional capacity of progenitor cells by activation of the CXCR4-dependent signaling pathway via the S1P3 receptor. *Arterioscler Thromb Vasc Biol*, 27:275-82
146. Seeger FH., Tonn T., Krzossok N., Zeiher AM., **Dimmeler S.** (2007) Cell isolation procedures matter: a comparison of different isolation protocols of bone marrow mononuclear cells used for cell therapy in patients with acute myocardial infarction. *Eur Heart J*, 28:766-72
147. Aicher A., Rentsch M., Sasaki KI., Ellwart JW., Fandrich F., Siebert R., Cooke J. P., **Dimmeler S.**, Heeschen C. (2007) Nonbone Marrow-Derived Circulating Progenitor Cells Contribute to Postnatal Neovascularization Following Tissue Ischemia. *Circ Res*, 100:581-9
148. Chavakis E., Hain A., Vinci M., Carmona G., Bianchi ME., Vajkoczy P., Zeiher AM., Chavakis T., **Dimmeler S.** (2007) High-mobility group box 1 activates integrin-dependent homing of endothelial progenitor cells. *Circ Res*, 100:204-12
149. Diehl F., Rössig L., Zeiher AM., **Dimmeler S.**, Urbich C. (2007) The histone methyltransferase MLL is an upstream regulator of endothelial-cell sprout formation. *Blood*, 109:1472-8
150. Assmus B., Fischer-Rasokat U., Honold J., Seeger FH., Fichtlscherer S., Tonn T., Seifried E., Schachinger V., **Dimmeler S.**, Zeiher AM. (2007) Transcoronary transplantation of functionally competent BMCs is associated with a decrease in natriuretic peptide serum levels and improved survival of patients with chronic postinfarction heart failure: results of the TOPCARE-CHD Registry. *Circ Res*, 100:1234-41
151. Aicher D., Urbich C., Zeiher AM., **Dimmeler S.**, Schafers HJ. (2007) Endothelial nitric oxide synthase in bicuspid aortic valve disease. *Ann Thorac Surg*, 83:1290-4

152. Kupatt C., Hinkel R., von Bruhl ML., Pohl T., Horstkotte J., Raake P., El Aouni C., Thein E., **Dimmeler S.**, Feron O., Boekstegers P. (2007) Endothelial nitric oxide synthase overexpression provides a functionally relevant angiogenic switch in hibernating pig myocardium. *J Am Coll Cardiol*, 49:1575-84
153. Kuehbach A., Urbich C., Zeiher AM., **Dimmeler S.** (2007) Role of Dicer and Drosha for endothelial microRNA expression and angiogenesis. *Circ Res*, 101:59-68
154. Kissel CK., Lehmann R., Assmus B., Aicher A., Honold J., Fischer-Rasokat U., Heeschen C., Spyridopoulos I., **Dimmeler S.**, Zeiher AM. (2007) Selective functional exhaustion of hematopoietic progenitor cells in the bone marrow of patients with postinfarction heart failure. *J Am Coll Cardiol*, 49:2341-9
155. Erbs S., Linke A., Schachinger V., Assmus B., Thiele H., Diederich KW., Hoffmann C., **Dimmeler S.**, Tonn T., Hambrecht R., Zeiher AM., Schuler G. (2007) Restoration of microvascular function in the infarct-related artery by intracoronary transplantation of bone marrow progenitor cells in patients with acute myocardial infarction: the Doppler Substudy of the Reinfusion of Enriched Progenitor Cells and Infarct Remodeling in Acute Myocardial Infarction (REPAIR-AMI) trial. *Circulation*, 116:366-74
156. Potente M., Ghaeni L., Baldessari D., Mostoslavsky R., Rossig L., Dequiedt F., Haendeler J., Mione M., Dejana E., Alt FW., Zeiher AM., **Dimmeler S.** (2007) SIRT1 controls endothelial angiogenic functions during vascular growth. *Genes Dev*, 21:2644-58
157. Koyanagi M., Bushoven P., Iwasaki M., Urbich C., Zeiher AM., **Dimmeler S.** (2007) Notch signaling contributes to the expression of cardiac markers in human circulating progenitor cells. *Circ Res*, 101:1139-45
158. Urbich C., Dernbach E., Rossig L., Zeiher AM., **Dimmeler S.** (2008) High glucose reduces cathepsin L activity and impairs invasion of circulating progenitor cells. *J Mol Cell Cardiol*, 45:429-36
159. Dernbach E., Randriamboavonjy V., Fleming I., Zeiher AM., **Dimmeler S.**, Urbich C. (2008) Impaired interaction of platelets with endothelial progenitor cells in patients with cardiovascular risk factors. *Basic Res Cardiol*, 103:572-81
160. Taddei A., Giampietro C., Conti A., Orsenigo F., Breviario F., Pirazzoli V., Potente M., Daly C., **Dimmeler S.**, Dejana E. (2008) Endothelial adherens junctions control tight junctions by VE-cadherin-mediated upregulation of claudin-5. *Nat Cell Biol*, 10:923-34
161. Burchfield J., Iwasaki M., Koyanagi M., Urbich C., Rosenthal N., Zeiher AM., **Dimmeler S.** (2008) Interleukin-10 from Transplanted Bone Marrow Mononuclear Cells Contributes to Cardiac Protection Following Myocardial Infarction. *Circ Res*, 103:203-11
162. Rupp S., Koyanagi M., Iwasaki M., Diehl F., Bushoven P., Schranz D., Zeiher AM., **Dimmeler S.** (2008) Genetic proof-of-concept for cardiac gene expression in human circulating blood-derived progenitor cells. *J Am Coll Cardiol*, 51:2289-90
163. Rupp S., Koyanagi M., Iwasaki M., Bauer J., von Gerlach S., Schranz D., Zeiher AM., **Dimmeler S.** (2008) Characterization of long-term endogenous cardiac repair in children after heart transplantation. *Eur Heart J*, 29:1867-72
164. Martin M., Potente M., Janssens V., Vertommen D., Twizere JC., Rider MH., Goris J., **Dimmeler S.**, Kettmann R., Dequiedt F. (2008) Protein phosphatase 2A controls the activity of histone deacetylase 7 during T cell apoptosis and angiogenesis. *Proc Natl Acad Sci U S A*, 105:4727-32
165. Chavakis E., Carmona G., Urbich C., Gottig S., Henschler R., Penninger JM., Zeiher AM., Chavakis T., **Dimmeler S.** (2008) Phosphatidylinositol-3-kinase-gamma is integral to homing functions of progenitor cells. *Circ Res*, 102:942-9
166. Ziebart T., Yoon CH, Trepels T, Wietelmann A, Braun T, Kiessling F, Stein S, Grez M, Ihling C, Muhly-Reinholz M, Carmona G, Urbich C, Zeiher AM, **Dimmeler S.** (2008) Sustained persistence of transplanted proangiogenic cells contributes to neovascularization and cardiac function after ischemia. *Circ Res.*, 103(11):1327-34.
167. Spyridopoulos I., Erben Y., Brummendorf T. H., Haendeler J., Dietz K., Seeger F., Kissel CK., Martin H., Hoffmann J., Assmus B., Zeiher AM., **Dimmeler S.** (2008) Telomere gap between granulocytes and lymphocytes is a determinant for hematopoietic progenitor cell impairment in patients with previous myocardial infarction. *Arterioscler Thromb Vasc Biol*, 28:968-74
168. Gueinzius K., Magenau A., Erath S., Wittke V., Urbich C., Ferrando-May E., **Dimmeler S.**, Hermann C. (2008) Endothelial cells are protected against phagocyte-transmitted Chlamydia pneumoniae infections by laminar shear stress Gueinzius: Shear stress protects from C. pneumoniae infection. *Atherosclerosis*, 198:256-63
169. Condorelli G., **Dimmeler S.** (2008) MicroRNAs: components of an integrated system controlling cardiac development, physiology, and disease pathogenesis. *Cardiovasc Res.*, 79:551-2
170. Spyridopoulos I., Fichtlscherer S., Popp R., Toennes SW., Fisslthaler B., Trepels T., Zerneck A., Liehn EA., Weber C., Zeiher AM., **Dimmeler S.**, Haendeler J. (2008) Caffeine enhances endothelial repair by an AMPK-dependent mechanism. *Arterioscler Thromb Vasc Biol.*, 28:1967-74
171. Schächinger V., Aicher A., Döbert N., Röver R., Diener J., Fichtlscherer S., Assmus B., Seeger FH., Menzel C., Brenner W., **Dimmeler S.**, Zeiher AM. (2008) Pilot trial on determinants of progenitor cell recruitment to the infarcted human myocardium. *Circulation*, 118:1425-32

172. Aicher A., Kollet O., Heeschen C., Liebner S., Urbich C., Ihling C., Orlandi A., Lapidot T., Zeiher AM., **Dimmeler S.** (2008) The Wnt antagonist Dickkopf-1 mobilizes vasculogenic progenitor cells via activation of the bone marrow endosteal stem cell niche. *Circ Res.*, 103:796-803.
173. Choi EY., Chavakis E., Czabanka MA., Langer HF., Fraemohs L., Economopoulou M, Kundu RK., Orlandi A., Zheng YY., Prieto DA., Ballantyne CM., Constant SL., Aird WC., Papayannopoulou T., Gahmberg CG., Udey MC., Vajkoczy P., Quertermous T., **Dimmeler S.**, Weber C., Chavakis T. (2008) Del-1, an endogenous leukocyte-endothelial adhesion inhibitor, limits inflammatory cell recruitment. *Science*, 322:1101-4
174. Ziebart T, Yoon CH, Trepels T, Wietelmann A, Braun T, Kiessling F, Stein S, Grez M, Ihling C, Muhly-Reinholz M, Carmona G, Urbich C, Zeiher AM, **Dimmeler S.** (2008) Sustained persistence of transplanted proangiogenic cells contributes to neovascularization and cardiac function after ischemia. *Circ Res.*, 103:1327-34
175. Carmona G., Chavakis E., Koehl U., Zeiher AM., **Dimmeler S.** (2008) Activation of Epac stimulates integrin-dependent homing of progenitor cells. *Blood*, 111:2640-6
176. Carmona G., Gottig S., Orlandi A., Scheele J., Bauerle T., Jugold M., Kiessling F., Henschler R., Zeiher AM., **Dimmeler S.**, Chavakis E. (2009) Role of the small GTPase Rap1 for integrin activity regulation in endothelial cells and angiogenesis. *Blood*, 113:488-97
177. Rupp S., Bauer J., Tonn T., Schächinger V., **Dimmeler S.**, Zeiher AM., Schranz D. (2009) Intracoronary administration of autologous bone marrow-derived progenitor cells in a critically ill two-yr-old child with dilated cardiomyopathy. *Pediatr Transplant*, 13:620-3
178. Scharner D., Rössig L., Carmona G., Chavakis E., Urbich C., Fischer A., Kang T.B., Wallach D., Chiang Y.J., Deribe Y.L., Dikic I., Zeiher AM., **Dimmeler S.** (2009) Caspase-8 is involved in neovascularization-promoting progenitor cell functions. *Arterioscler Thromb Vasc Biol*, 29:571-8
179. Hoffmann J., Erben Y., Zeiher AM., **Dimmeler S.**, Spyridopoulos I (2009) Telomere length-heterogeneity among myeloid cells is a predictor for chronological ageing. *Exp Gerontol*, 44:363-6
180. Dill, T., Schächinger V., Rolf A., Mollmann S., Thiele H., Tillmanns H., Assmus B., **Dimmeler S.**, Zeiher AM., Hamm C. (2009) Intracoronary administration of bone marrow-derived progenitor cells improves left ventricular function in patients at risk for adverse remodeling after acute ST-segment elevation myocardial infarction: results of the Reinfusion of Enriched Progenitor cells And Infarct Remodeling in Acute Myocardial Infarction study (REPAIR-AMI) cardiac magnetic resonance imaging substudy. *Am Heart J*, 157:541-7
181. Haendeler J., Droese S., Buchner N., Jakob S., Altschmied J., Goy C., Spyridopoulos I., Zeiher AM., Brandt U., **Dimmeler S.** (2009) Mitochondrial telomerase reverse transcriptase binds to and protects mitochondrial DNA and function from damage. *Arterioscler Thromb Vasc Biol*, 29:929-35
182. Aicher A., Heeschen C., Feil S., Hofmann F., Mendelsohn ME., Feil R., **Dimmeler S.** (2009) cGMP-dependent protein kinase I is crucial for angiogenesis and postnatal vasculogenesis. *PLoS One*, 4:e4879
183. Fadini GP., de Kreutzenberg S., Agostini C., Boscaro E., Tiengo A., **Dimmeler S.**, Avogaro A (2009) Low CD34+ cell count and metabolic syndrome synergistically increase the risk of adverse outcomes. *Atherosclerosis*, 207:213-9
184. Urbich C., Rössig L., Kaluza D., Potente M., Boeckel JN., Knau A., Diehl F., Geng F.G., Hofmann WK., Zeiher AM., **Dimmeler S.** (2009) HDAC5 is a repressor of angiogenesis and determines the angiogenic gene expression pattern of endothelial cells. *Blood*, 113:5669-79
185. Koyanagi M., Iwasaki M., Haendeler J., Leitges M., Zeiher AM., **Dimmeler S.** (2009) Wnt5a increases cardiac gene expressions of cultured human circulating progenitor cells via a PKC delta activation. *PLoS One*, 4:e5765
186. Bonauer A., Carmona G., Iwasaki M., Mione M., Koyanagi M., Fischer A., Burchfield J., Fox H., Doebele C., Ohtani K., Chavakis E., Potente M., Tjwa M., Urbich C., Zeiher AM., **Dimmeler S.** (2009) MicroRNA-92a controls angiogenesis and functional recovery of ischemic tissues in mice. *Science*, 324:1710-3
187. Balconi G., Lehmann R., Fiordaliso F., Assmus B., **Dimmeler S.**, Sarto P., Carbonieri E., Gualco A., Campana C., Angelici L., Masson S., Mohammed SA., Dejana E., Gorini M., Zeiher AM., Latini R., GISSI-HF-Investigators (2009) Levels of circulating pro-angiogenic cells predict cardiovascular outcomes in patients with chronic heart failure. *J Card Fail*, 15:747-55
188. Bearzi C., Leri A., Lo Monaco F., Rota M., Gonzalez A., Hosoda T., Pepe M., Qanud K., Ojaimi C., Bardelli S., D'Amario D., D'Alessandro DA., Michler RE., **Dimmeler S.**, Zeiher AM., Urbanek K., Hintze T.H., Kajstura J., Anversa P. (2009) Identification of a coronary vascular progenitor cell in the human heart. *Proc Natl Acad Sci U S A*, 106:15885-90
189. Fischer-Rasokat U., Assmus B., Seeger FH., Honold J., Leistner D., Fichtlscherer S., Schächinger V., Tonn T., Martin H., **Dimmeler S.**, Zeiher AM. (2009) A pilot trial to assess potential effects of selective intracoronary bone marrow-derived progenitor cell infusion in patients with nonischemic dilated cardiomyopathy: final 1-year results of the transplantation of progenitor cells and functional regeneration enhancement pilot trial in patients with nonischemic dilated cardiomyopathy. *Circ Heart Fail*, 2:417-23
190. Schächinger V., Assmus B., Erbs S., Elsässer A., Haberbosch W., Hambrecht R., Yu J., Corti R., Mathey DG., Hamm CW., Tonn T., **Dimmeler S.**, Zeiher AM., REPAIR-AMI-investigators (2009) Intracoronary

- infusion of bone marrow-derived mononuclear cells abrogates adverse left ventricular remodelling post-acute myocardial infarction: insights from the reinfusion of enriched progenitor cells and infarct remodelling in acute myocardial infarction (REPAIR-AMI) trial. *Eur J Heart Fail*, 11:973-9
191. Schröder K., Kohnen A., Aicher A., Liehn EA., Büchse T., Stein S., Weber C., **Dimmeler S.**, Brandes RP. (2009) NADPH oxidase Nox2 is required for hypoxia-induced mobilization of endothelial progenitor cells. *Circ Res*, 105:537-44
 192. Seeger FH., Rasper T., Koyanagi M., Fox H., Zeiher AM., **Dimmeler S.** (2009) CXCR4 expression determines functional activity of bone marrow-derived mononuclear cells for therapeutic neovascularization in acute ischemia. *Arterioscler Thromb Vasc Biol*, 29:1802-9
 193. Spyridopoulos I., Hoffmann J., Aicher A., Brummendorf TH., Doerr HW., Zeiher AM., **Dimmeler S.** (2009) Accelerated telomere shortening in leukocyte subpopulations of patients with coronary heart disease: role of cytomegalovirus seropositivity. *Circulation*, 120:1364-72
 194. Baur JA., D. Chen, EN. Chini, K. Chua, HY. Cohen, R. de Cabo, C. Deng, **S. Dimmeler**, D. Gius, L.P. Guarente, SL. Helfand, S. Imai, H. Itoh, T. Kadowaki, D. Koya, C. Leeuwenburgh, M. McBurney, Y. Nabeshima, C. Neri, P. Oberdoerffer, R.G. Pestell, B. Rogina, J. Sadoshima, V. Sartorelli, M. Serrano, D. A. Sinclair, C. Steegborn, M. Tatar, HA. Tissenbaum, Q. Tong, K. Tsubota, A. Vaquero, E. Verdin (2010) Dietary restriction: standing up for sirtuins. *Science*, 329:1012-3
 195. Orlandi A., Chavakis E., Seeger F., Tjwa M., Zeiher AM., **Dimmeler S.** (2010) Long-term diabetes impairs repopulation of hematopoietic progenitor cells and dysregulates the cytokine expression in the bone marrow microenvironment in mice. *Basic Res Cardiol*, 105:703-12
 196. Fadini GP., Maruyama S., Ozaki T., Taguchi A., Meigs J., **Dimmeler S.**, Zeiher A.M., de Kreutzenberg S., Avogaro A., Nickenig G., Schmidt-Lucke C., Werner N. (2010) Circulating progenitor cell count for cardiovascular risk stratification: a pooled analysis. *PLoS One*, 5:e11488
 197. Fichtlscherer S., De Rosa S., Fox H., Schwietz T., Fischer A., Liebetrau C., Weber M., Hamm CW., Röxe T., Müller-Ardogan M., Bonauer A., Zeiher AM., **Dimmeler S.** (2010) Circulating microRNAs in patients with coronary artery disease. *Circ Res*, 107:677-84
 198. Hecker M., Zaslona Z., Kwapiszewska G., Niess G., Zakrzewicz A., Hergenreider E., Wilhelm J., Marsh LM., Sedding D., Klepetko W., Lohmeyer J., **Dimmeler S.**, Seeger W., Weissmann N., Schermuly RT., Kneidinger N., Eickelberg O., Morty RE. (2010) Dysregulation of the IL-13 receptor system: a novel pathomechanism in pulmonary arterial hypertension. *Am J Respir Crit Care Med.*, 182:805-18
 199. Simper D., Mayr U., Urbich C., Zampetaki A., Prokopi M., Didangelos A., Saje A., Mueller M., Benbow U., Newby AC., Apweiler R., Rahman S., **Dimmeler S.**, Xu Q., Mayr M. (2010) Comparative proteomics profiling reveals role of smooth muscle progenitors in extracellular matrix production. *Arterioscler Thromb Vasc Biol.*, 30:1325-32
 200. Yoon CH., Koyanagi M., Iekushi K., Seeger F., Urbich C., Zeiher AM., **Dimmeler S.** (2010) Mechanism of improved cardiac function after bone marrow mononuclear cell therapy: role of cardiovascular lineage commitment. *Circulation*, 121:2001-11
 201. Langer HF., von der Ruhr JW., Daub K., Schoenberger T., Stellos K., May AE., Schnell H., Gauss A., Hafner R., Lang P., Schumm M., Bühring HJ., Klingel K., Conrad S., Schaller M., van Zandvoort M., Jung G., **Dimmeler S.**, Skutella T., Gawaz M. (2010) Capture of endothelial progenitor cells by a bispecific protein/monoclonal antibody molecule induces reendothelialization of vascular lesions. *J Mol Med.*, 88:687-99
 202. Assmus B., Tonn T., Seeger FH., Yoon CH., Leistner D., Klotsche J., Schächinger V., Seifried E., Zeiher AM., **Dimmeler S.** (2010) Red blood cell contamination of the final cell product impairs the efficacy of autologous bone marrow mononuclear cell therapy. *J Am Coll Cardiol*, 55:1385-94
 203. Doebele C., Bonauer A., Fischer A., Scholz A., Reiss Y., Urbich C., Hofmann WK., Zeiher AM., **Dimmeler S.** (2010) Members of the microRNA-17-92 cluster exhibit a cell-intrinsic antiangiogenic function in endothelial cells. *Blood*, 115:4944-50
 204. Minnerup J., Seeger F.H., Kuhnert K., Diederich K., Schilling M., **Dimmeler S.**, Schäbitz WR. (2010) Intracarotid administration of human bone marrow mononuclear cells in rat photothrombotic ischemia. *Exp Transl Stroke Med.*, 2:3
 205. Schmidt-Lucke C., Fichtlscherer S., Rössig L., Kämper U., **Dimmeler S.** (2010) Improvement of endothelial damage and regeneration indexes in patients with coronary artery disease after 4 weeks of statin therapy. *Atherosclerosis*, 211:249-54
 206. Koyanagi M., Iwasaki M., Rupp S., Tedesco FS., Yoon CH., Boeckel JN., Trauth J., Schütz C., Ohtani K., Goetz R., Iekushi K., Bushoven P., Momma S., Mummery C., Passier R., Henschler R., Akintuerk H., Schranz D., Urbich C., Galvez BG., Cossu G., Zeiher AM., **Dimmeler S.** (2010) Sox2 transduction enhances cardiovascular repair capacity of blood-derived mesoangioblasts. *Circ Res.*, 106:1290-302
 207. Fadini GP., Boscaro E., de Kreutzenberg S., Agostini C., Seeger F., **Dimmeler S.**, Zeiher AM., Tiengo A., Avogaro A. (2010) Time course and mechanisms of circulating progenitor cell reduction in the natural history of type 2 diabetes. *Diabetes Care*, 33:1097-102
 208. Mersmann J., Berkels R., Zacharowski P., Tran N., Koch A., Iekushi K., **Dimmeler S.**, Granja TF., Boehm O., Claycomb WC., Zacharowski K. (2010) Preconditioning by toll-like receptor 2 agonist Pam3CSK4

- reduces CXCL1-dependent leukocyte recruitment in murine myocardial ischemia/reperfusion injury. *Crit Care Med*, 38:903-9
209. Rupp S., Zeiher AM., **Dimmeler S.**, Tonn T., Bauer J., Jux C., Akintuerk H., Schranz D. (2010) A regenerative strategy for heart failure in hypoplastic left heart syndrome: intracoronary administration of autologous bone marrow-derived progenitor cells. *J Heart Lung Transplant*, 29:574-7
 210. Assmus B., Rolf A., Erbs S., Elsässer A., Haberbosch W., Hambrecht R., Tillmanns H., Yu J., Corti R., Mathey DG., Hamm CW., Süselbeck T., Tonn T., **Dimmeler S.**, Dill T., Zeiher AM., Schächinger V. (2010) Clinical outcome 2 years after intracoronary administration of bone marrow-derived progenitor cells in acute myocardial infarction. *Circ Heart Fail.*, 3:89-96
 211. Seeger FH., Sedding D., Langheinrich AC., Haendeler J., Zeiher AM., **Dimmeler S.** (2010) Inhibition of the p38 MAP kinase in vivo improves number and functional activity of vasculogenic cells and reduces atherosclerotic disease progression. *Basic Res Cardiol*, 105:389-97
 212. Schmidt-Lucke C., Fichtlscherer S., Aicher A., Tschöpe C., Schultheiss HP., Zeiher AM., **Dimmeler S.** (2010) Quantification of circulating endothelial progenitor cells using the modified ISHAGE protocol. *PLoS One*, 5:e13790
 213. Leistner DM., Schmitt J., Palm S., Klotsche J., Estel S., Fink A., Israel C.W., Assmus B., Duray G.Z., **Dimmeler S.**, Hohnloser SH., Zeiher AM. (2010) Intracoronary administration of bone marrow-derived mononuclear cells and arrhythmic events in patients with chronic heart failure. *Eur Heart J.*, 32:485-91
 214. Sander AL., Jakob H., Henrich D., Powerski M., Witt H., **Dimmeler S.**, Barker J., Marzi I., Frank J. (2011) Systemic Transplantation of Progenitor Cells Accelerates Wound Epithelialization and Neovascularization in the Hairless Mouse Ear Wound Model. *J Surg Res*, 165:165-70
 215. Boon RA., Urbich C., Fischer A., Fontijn RD., Seeger FH., Koyanagi M., Horrevoets AJ., **Dimmeler S.** (2011) Kruppel-like factor 2 improves neovascularization capacity of aged proangiogenic cells. *Eur Heart J*, 32:371-7
 216. Urbich C., De Souza AI., Rössig L., Yin X., Xing Q., Prokopi M., Drozdov I., Steiner M., Breuss J., Xu Q., **Dimmeler S.**, Mayr M. (2011) Proteomic characterization of human early pro-angiogenic cells. *J Mol Cell Cardiol*, 50:333-6
 217. Iwasaki M., Koyanagi M., Kossmann H., Monsefi N., Rupp S., Trauth J., Paulus P., Goetz R., Momma S., Tjwa M., Ohtani K., Henschler R., Schranz D., Cossu G., Zacharowski K., Martens S., Zeiher AM., **Dimmeler S.** (2011) Hepatocyte growth factor mobilizes non-bone marrow-derived circulating mesoangioblasts. *Eur Heart J.*, 32:627-36
 218. Walter DH., Krankenberg H., Balzer J.O., Kalka C., Baumgartner I., Schlüter M., Tonn T., Seeger F., **Dimmeler S.**, Lindhoff-Last E., Zeiher AM. (2011) Intraarterial Administration of Bone Marrow Mononuclear Cells in Patients With Critical Limb Ischemia: A Randomized-Start, Placebo-Controlled Pilot Trial (PROVASA). *Circ Cardiovasc Interv.*, 4:26-37
 219. Boeckel JN., Guarani V., Koyanagi M., Roexe T., Lengeling A., Schermuly RT., Gellert P., Braun T., Zeiher AM., **Dimmeler S.** (2011) Jumonji domain-containing protein 6 (Jmjd6) is required for angiogenic sprouting and regulates splicing of VEGF-receptor 1. *Proc Natl Acad Sci U S A*, 108:3276-81
 220. Fadini GP., Albiero M., Menegazzo L., Boscaro E., Vigili de Kreutzenberg S., Agostini C., Cabrelle A., Binotto G., Rattazzi M., Bertacco E., Bertorelle R., Biasini L., Mion M., Plebani M., Ceolotto G., Angelini A., Castellani C., Menegolo M., Grego F., **Dimmeler S.**, Seeger F., Zeiher AM. Tiengo A., Avogaro A. (2011) Widespread increase in myeloid calcifying cells contributes to ectopic vascular calcification in type 2 diabetes. *Circ Res*, 108:1112-21
 221. Guarani V., Deflorian G., Franco CA., Krüger M., Phng LK., Bentley K., Toussaint L., Dequiedt F., Mostoslavsky R., Schmidt MH., Zimmermann B., Brandes RP., Mione M., Westphal CH., Braun T., Zeiher AM., Gerhardt H., **Dimmeler S.**, Potente M. (2011) Acetylation-dependent regulation of endothelial Notch signalling by the SIRT1 deacetylase. *Nature*, 473:234-8
 222. Leistner DM., Fischer-Rasokat U., Honold J., Seeger FH., Schächinger V., Lehmann R., Martin H., Burck I., Urbich C., **Dimmeler S.**, Zeiher AM., Assmus B. (2011) Transplantation of progenitor cells and regeneration enhancement in acute myocardial infarction (TOPCARE-AMI): final 5-year results suggest long-term safety and efficacy. *Clin Res Cardiol*, 100:925-34
 223. Rolf A., Assmus B., Schächinger V., Rixe J., Möllmann S., Möllmann H., **Dimmeler S.**, Zeiher AM., Hamm CW., Dill T. (2011) Maladaptive hypertrophy after acute myocardial infarction positive effect of bone marrow-derived stem cell therapy on regional remodeling measured by cardiac MRI. *Clin Res Cardiol*, 100:983-92
 224. Kaluza D., Kroll J., Gesierich S., Yao TP., Boon RA., Hergenreider E., Tjwa M., Rössig L., Seto E., Augustin HG., Zeiher AM., **Dimmeler S.***, Urbich C. (2011) Class IIb HDAC6 regulates endothelial cell migration and angiogenesis by deacetylation of cortactin. *EMBO J*, 30:4142-56
- *Corresponding author
225. Boon RA., Seeger T., Heydt S., Fischer A., Hergenreider E., Horrevoets AJ., Vinciguerra M., Rosenthal N., Sciacca S., Pilato M., van Heijningen P., Essers J., Brandes RP., Zeiher AM., **Dimmeler S.** (2011) MicroRNA-29 in Aortic Dilatation: Implications for Aneurysm Formation. *Circ Res*, 109:1115-9

226. De Rosa S., Fichtlscherer S., Lehmann R., Assmus B., **Dimmeler S.***, Zeiher AM.* (2011) Transcoronary Concentration Gradients of Circulating MicroRNAs. *Circulation*, 124:1936-44
*Corresponding author
227. Ohtani K., Vlachojannis GJ., Koyanagi M., Boeckel JN., Urbich C., Farcas R., Bonig H., Marquez VE., Zeiher AM., **Dimmeler S.** (2011) Epigenetic Regulation of Endothelial Lineage Committed Genes in Pro-Angiogenic Hematopoietic and Endothelial Progenitor Cells. *Circ Res*, 109:1219-29
228. Fischer-Rasokat U., Honold J., Seeger FH., Fichtlscherer S., Schächinger V., **Dimmeler S.**, Zeiher AM., Assmus B. (2011) Early remodeling processes as predictors of diastolic function 5 years after reperfused acute myocardial infarction and intracoronary progenitor cell application. *Clin Res Cardiol*, 101:209-16
229. Pullamsetti SS., Doebele C., Fischer A., Savai R., Kojonazarov B., Dahal BK., Ghofrani HA., Weissmann N., Grimminger F., Bonauer A., Seeger W., Zeiher AM., **Dimmeler S.**, Schermuly RT. (2011) Inhibition of microRNA-17 Improves Lung and Heart Function in Experimental Pulmonary Hypertension. *Am J Respir Crit Care Med*, 185:409-19
230. Assmus B., Iwasaki M., Schächinger V., Roewe T., Koyanagi M., Iekushi K., Xu Q., Tonn T., Seifried E., Liebner S., Kranert WT., Grünwald F., **Dimmeler S.**, Zeiher AM. (2011) Acute myocardial infarction activates progenitor cells and increases Wnt signalling in the bone marrow. *Eur Heart J*, 33:1911-9
231. Urbich C., Kaluza D., Frömel T., Knau A., Bennewitz K., Boon RA., Bonauer A., Doebele C., Boeckel JN., Hergenreider E., Zeiher AM., Kroll J., Fleming I., **Dimmeler S.** (2011) MicroRNA-27a/b controls endothelial cell repulsion and angiogenesis by targeting semaphorin 6A. *Blood*, 119:1607-16
232. Hergenreider E., Heydt S., Tréguer K., Boettger T., Horrevoets AJ., Zeiher AM., Scheffer MP., Frangakis AS., Yin X., Mayr M., Braun T., Urbich C., Boon RA., **Dimmeler S.** (2012) Atheroprotective communication between endothelial cells and smooth muscle cells through miRNAs. *Nat Cell Biol.*, 14:249-56
233. Rupp S., Jux C., Böning H., Bauer J., Tonn T., Seifried E., **Dimmeler S.**, Zeiher AM., Schranz D. (2012) Intracoronary bone marrow cell application for terminal heart failure in children. *Cardiol Young*, 22:558-63
234. Rupp S., Bauer J., von Gerlach S., Fichtlscherer S., Zeiher AM., **Dimmeler S.**, Schranz D. (2012) Pressure overload leads to an increase of cardiac resident stem cells. *Basic Res Cardiol.*, 107:1-7
235. Iekushi K., Seeger F., Assmus B., Zeiher AM., **Dimmeler S.** (2012) Paracrine Regulation of Cardiac miRNAs by Bone Marrow Mononuclear Cell Therapy in Myocardial Infarction. *Circulation*, 125:1765-73
236. Schröder K., Zhang M., Benkhoff S., Mieth A., Pliquett R., Kosowski J., Kruse C., Luedike P., Michaelis UR., Weissmann N., **Dimmeler S.**, Shah AM., Brandes RP. (2012) Nox4 is a protective reactive oxygen species generating vascular NADPH oxidase. *Circ Res.*, 110:1217-25
237. Prokoph S., Chavakis E., Levental KR., Zieris A., Freudenberg U., **Dimmeler S.**, Werner C. (2012) Sustained delivery of SDF-1 α from heparin-based hydrogels to attract circulating pro-angiogenic cells. *Biomaterials.*, 33:4792-80
238. Xu Q., Seeger FH., Castillo J., Iekushi K., Boon RA., Farcas R., Manavski Y., Li YG., Assmus B., Zeiher AM., **Dimmeler S.** (2012) Micro-RNA-34a contributes to the impaired function of bone marrow-derived mononuclear cells from patients with cardiovascular disease. *J Am Coll*, 59:2107-17.
239. Cheng C., Haasdijk R, Tempel D., van de Kamp EH., Herpers R., Bos F., Den Dekker WK., Blonden LA., de Jong R., Bürgisser PE., Chrifi I., Biessen EA., **Dimmeler S.**, Schulte-Merker S., Duckers HJ. (2012) Endothelial cell-specific FGD5 involvement in vascular pruning defines neovessel fate in mice. *Circulation.*, 125:3142-58
240. Frömel T., Jungblut B., Hu J., Trouvain C., Barbosa-Sicard E., Popp R., Liebner S., **Dimmeler S.**, Hammock BD., Fleming I. (2012) Soluble epoxide hydrolase regulates hematopoietic progenitor cell function via generation of fatty acid diols. *Proc Natl Acad Sci U S A.*, 109:9995-10000
241. Tréguer K., Heinrich EM., Ohtani K., Bonauer A., **Dimmeler S.** (2012) Role of the MicroRNA-17-92 Cluster in the Endothelial Differentiation of Stem Cells. *J Vasc Res.*, 49:447-60
242. Seeger FH., Rasper T., Fischer A., Muhly-Reinholz M., Hergenreider E., Leistner DM., Sommer K., Manavski Y., Henschler R., Chavakis E., Assmus B., Zeiher AM., **Dimmeler S.** (2012) Heparin Disrupts the CXCR4/SDF-1 Axis and Impairs the Functional Capacity of Bone Marrow-Derived Mononuclear Cells Used for Cardiovascular Repair. *Circ Res.*, 111:854-62
243. Weigand JE., Boeckel JN., Gellert P., **Dimmeler S.** (2012) Hypoxia-induced alternative splicing in endothelial cells. *PLoS One.*, 7:e42697
244. Reis M., Czupalla CJ., Ziegler N., Devraj K., Zinke J., Seidel S., Heck R., Thom S., Macas J., Bockamp E., Fruttiger M., Taketo MM., **Dimmeler S.**, Plate KH., Liebner S. (2012) Endothelial Wnt/ β -catenin signaling inhibits glioma angiogenesis and normalizes tumor blood vessels by inducing PDGF-B expression. *J Exp Med.*, 209:1611-27
245. Leistner DM., Seeger FH., Fischer A., Röxe T., Klotsche J., Iekushi K., Seeger T., Assmus B., Honold J., Karakas M., Badenhop K., Frantz S., **Dimmeler S.**, Zeiher AM. (2012) Elevated Levels of the Mediator of Catabolic Bone Remodelling RANKL in the Bone Marrow Environment Link Chronic Heart Failure with Osteoporosis. *Circ Heart Fail.*, 5:769-777

246. Boon RA., Hergenreider E., **Dimmeler S.** (2012) G-CSF-Stimulation And Coronary Reinfusion Of Mobilized Circulating Mononuclear Proangiogenic Cells In Patients With Chronic Ischemic Heart Disease: Five Year Results Of The TOPCARE- G-CSF Trial. *Thromb Haemost.*, 108:616-20
247. Honold J., Fischer-Rasokat U., Lehmann R., Leistner DM., Seeger FH., Schachinger V., Martin H., **Dimmeler S.**, Zeiher AM., Assmus B. (2012) G-CSF-Stimulation And Coronary Reinfusion Of Mobilized Circulating Mononuclear Proangiogenic Cells In Patients With Chronic Ischemic Heart Disease: Five Year Results Of The TOPCARE- G-CSF Trial. *Cell Transplant.*, 21:2325-37
248. de Jager SC., Bongaerts BW., Weber M., Kraaijeveld AO., Rousch M., **Dimmeler S.**, van Dieijen-Visser MP, Cleutjens KB., Nelemans PJ., van Berkel TJ., Biessen EA. (2012) Chemokines CCL3/MIP1 α , CCL5/RANTES and CCL18/PARC are Independent Risk Predictors of Short-Term Mortality in Patients with Acute Coronary Syndromes. *PLoS One.*, 7:e45804
249. Fadini GP., Albiero M., Seeger F., Poncina N., Menegazzo L., Angelini A., Castellani C., Thiene G., Agostini C., Cappellari R., Boscaro E., Zeiher A., **Dimmeler S.**, Avogaro A. (2013) Stem cell compartmentalization in diabetes and high cardiovascular risk reveals the role of DPP-4 in diabetic stem cell mobilopathy. *Basic Res Cardiol.*, 108:313. doi: 10.1007/s00395-012-0313-1
250. Rhodes CJ., Wharton J., Boon RA., Roexe T., Tsang H., Wojciak-Stothard B., Chakrabarti A., Howard LS., Gibbs JS., Lawrie A., Condliffe R., Elliot CA., Kiely DG., Huson L., Ghofrani HA., Tiede H., Schermuly R., Zeiher AM., **Dimmeler S***, Wilkins MR*. (2013) Reduced miR-150 is Associated with Poor Survival in Pulmonary Arterial Hypertension. *Am J Respir Crit Care Med.*, 187:294-302. *contributed equally
251. Seeger T., Haffez F., Fischer A., Koehl U., Leistner DM., Seeger FH., Boon RA., Zeiher AM., **Dimmeler S.** (2013) Immunosenescence-associated microRNAs in age and heart failure. *Eur J Heart Fail.*, 15:385-93
252. Kaluza D., Kroll J., Gesierich S., Manavski Y., Boeckel JN., Doebele C., Zelent A., Rössig L., Zeiher AM., Augustin HG., Urbich C., **Dimmeler S.** (2013) Histone Deacetylase 9 Promotes Angiogenesis by Targeting the Antiangiogenic MicroRNA 17-92 Cluster in Endothelial Cells. *Arterioscler Thromb Vasc Biol.*, 33:533-43
253. De Rosa S., Seeger FH., Honold J., Fischer-Rasokat U., Lehmann R., Fichtlscherer S., Schächinger V., **Dimmeler S.**, Zeiher AM., Assmus B. (2013) Procedural safety and predictors of acute outcome of intracoronary administration of progenitor cells in 775 consecutive procedures performed for acute myocardial infarction or chronic heart failure. *Circ Cardiovasc Interv.*, 6:44-51
254. Nikolic I., Dudvarski Stankovic N., Bicker F., Meister J., Braun H., Awwad K., Baumgart J., Simon K., Thal SC., Patra C., Harter PN., Plate KH., Engel FB., **Dimmeler S.**, Eble JA., Mittelbronn M., Schäfer MK., Jungblut B., Chavakis E., Fleming I., Schmidt MH. (2013) EGFL7 ligates α v β 3 integrin to enhance vessel formation. *Blood*, 121:3041-50
255. Boon RA., Iekushi K., Lechner S., Seeger T., Fischer A., Heydt S., Kaluza D., Tréguer K., Carmona G., Bonauer A., Horrevoets AJ., Didier N., Girmatsion Z., Biliczki P., Ehrlich JR., Katus HA., Müller OJ., Potente M., Zeiher AM., Hermeking H., **Dimmeler S.** (2013) MicroRNA-34a regulates cardiac ageing and function. *Nature*, 495:107-10
256. Wagner J., Riwanto M., Besler C., Knau A., Fichtlscherer S., Röxe T., Zeiher AM., Landmesser U., **Dimmeler S.** (2013) Characterization of levels and cellular transfer of circulating lipoprotein-bound microRNAs. *Arterioscler Thromb Vasc Biol.*, 33(6):1392-400
257. Assmus B., Walter DH., Seeger FH., Leistner DM., Steiner J., Ziegler I., Lutz A., Khaled W., Klotsche J., Tonn T., **Dimmeler S.**, Zeiher AM. (2013) Effect of shock wave-facilitated intracoronary cell therapy on LVEF in patients with chronic heart failure: the CELLWAVE randomized clinical trial. *JAMA.*, 309:1622-31
258. Honold J., Fischer-Rasokat U., Seeger FH., Leistner D., Lotz S., **Dimmeler S.**, Zeiher AM., Assmus B. (2013) Impact of intracoronary reinfusion of bone marrow-derived mononuclear progenitor cells on cardiopulmonary exercise capacity in patients with chronic postinfarction heart failure. *Clin Res Cardiol.*, 102:619-25
259. Boeckel JN., Thomé CE., Leistner D., Zeiher AM., Fichtlscherer S., **Dimmeler S.** (2013) Heparin selectively affects the quantification of microRNAs in human blood samples. *Clin Chem.*, 9:1125-7
260. Fadini GP., de Kreutzenberg SV., Boscaro E., Albiero M., Cappellari R., Kränkel N., Landmesser U., Toniolo A., Bolego C., Cignarella A., Seeger F., **Dimmeler S.**, Zeiher A., Agostini C., Avogaro A. (2013) An unbalanced monocyte polarisation in peripheral blood and bone marrow of patients with type 2 diabetes has an impact on microangiopathy. *Diabetologia.*, 56:1856-66
261. Heinrich EM., Wagner J., Krüger M., John D., Uchida S., Weigand JE., Suess B., **Dimmeler S.** (2013) Regulation of miR-17-92a cluster processing by the microRNA binding protein SND1. *FEBS Lett.*, 587:2405-11
262. Ohtani K., Zhao C., Dobrova G., Manavski Y., Kluge B., Braun T., Rieger MA., Zeiher AM., **Dimmeler S.** (2013) Jmjd3 controls mesodermal and cardiovascular differentiation of embryonic stem cells. *Circ Res.*, 113:856-62
263. Hinkel R., Penzkofer D., Zühlke S., Fischer A., Husada W., Xu QF., Baloch E., van Rooij E., Zeiher AM., Kupatt C., **Dimmeler S.** (2013) Inhibition of microRNA-92a protects against ischemia/reperfusion injury in a large-animal model. *Circulation.*, 128:1066-75
264. Dirx E., Gladka MM., Philippen LE., Armand AS., Kinet V., Leptidis S., El Azzouzi H., Salic K., Bourajaj M., da Silva GJ., Olieslagers S., van der Nagel R., de Weger R., Bitsch N., Kisters N., Seyen S., Morikawa

- Y., Chanoine C., Heymans S., Volders PG., Thum T., **Dimmeler S.**, Cserjesi P., Eschenhagen T., da Costa Martins PA., De Windt LJ. (2013) Nfat and miR-25 cooperate to reactivate the transcription factor Hand2 in heart failure. *Nat Cell Biol.*, 15:1282-93
265. Schäfer F., Wagner J., Knau A., **Dimmeler S.**, Heckel A. (2013) Regulating angiogenesis with light-inducible AntimiRs. *Angew Chem Int Ed Engl.*, 52:13558-61
266. Urbschat A., Zacharowski K., Obermüller N., Rupprecht K., Penzkofer D., Jennewein C., Tran N., Scheller B., **Dimmeler S.**, Paulus P. (2014) The small fibrinopeptide B β 15-42 as renoprotective agent preserving the endothelial and vascular integrity in early ischemia reperfusion injury in the mouse kidney. *PLoS One.*, 9:e84432
267. Vecellio M., Spallotta F., Nanni S., Colussi C., Cencioni C., Derlet A., Bassetti B., Tilenni M., Carena MC., Farsetti A., Sbardella G., Castellano S., Mai A., Martelli F., Pompilio G., Capogrossi MC., Rossini A., **Dimmeler S.**, Zeiher AM., Gaetano C. (2014) The Histone Acetylase Activator Pentadecylidenemalonate 1b Rescues Proliferation and Differentiation in Human Cardiac Mesenchymal Cells of Type 2 Diabetic Patients. *Diabetes.*, 63:2132-47
268. Manavski Y., Carmona G., Bennewitz K., Tang Z., Zhang F., Sakurai A., Zeiher AM., Gutkind JS., Li X., Kroll J., **Dimmeler S.**, Chavakis E. (2014) Brag2 differentially regulates β 1- and β 3-integrin-dependent adhesion in endothelial cells and is involved in developmental and pathological angiogenesis. *Basic Res Cardiol.* 109:404
269. Assmus B., Leistner DM., Schächinger V., Erbs S., Elsässer A., Haberbosch W., Hambrecht R., Sedding D., Yu J., Corti R., Mathey DG., Barth C., Mayer-Wehrstein C., Burck I., Sueselbeck T., Dill T., Hamm CW., Tonn T., **Dimmeler S.**, Zeiher AM.; for the REPAIR-AMI Study Group. (2014) Long-term clinical outcome after intracoronary application of bone marrow-derived mononuclear cells for acute myocardial infarction: migratory capacity of administered cells determines event-free survival. *Eur Heart J.*, 35:1275-83
270. Michalik KM., You X., Manavski Y., Doddaballapur A., Zörnig M., Braun T., John D., Ponomareva Y., Chen W., Uchida S., Boon RA., **Dimmeler S.** (2014) The Long Noncoding RNA MALAT1 Regulates Endothelial Cell Function and Vessel Growth. *Circ Res.*, 114:1389-97
271. Paulus P., Rupprecht K., Baer P., Obermüller N., Penzkofer D., Reissig C., Scheller B., Holfeld J., Zacharowski K., **Dimmeler S.**, Schlamme J., Urbschat A. (2014) The Early Activation of Toll-Like Receptor (TLR)-3 Initiates Kidney Injury after Ischemia and Reperfusion. *PLoS One.*, 9:e94366

Review Articles / Editorials

1. **Dimmeler S.**, Zeiher AM. (1997) Nitric oxide and apoptosis - Another paradigm for the double-edged role of nitric oxide. *Nitric Oxide*, 1:275-281
2. **Dimmeler S.**, Hermann C., Zeiher AM. (1998) Apoptosis of endothelial cells. Contribution to the pathophysiology of atherosclerosis? *Eur Cytokine Netw*, 9:697-698
3. Haendeler J., Zeiher AM., **Dimmeler S.** (1999) Nitric oxide and apoptosis. *Vitamins and Hormones*, 57:50-77
4. **Dimmeler S.**, Zeiher AM. (1999) Nitric oxide: an endothelial cell survival factor. *Cell Death Differentiation*, 6:964-968
5. **Dimmeler S.**, Zeiher AM. (2000) Akt takes centre stage in angiogenesis signaling (Editorial) *Circ Res*, 86:4-5
6. **Dimmeler S.**, Zeiher AM. (2000) Reactive oxygen species and vascular cell apoptosis. *Regulatory Peptides*, 90:19-25
7. **Dimmeler S.**, Zeiher AM. (2000) Endothelial cell apoptosis in angiogenesis and vessel regression. *Circ Res*, 87:434-439
8. Rössig L., **Dimmeler S.**, Zeiher AM. (2000) Apoptosis in the vascular wall and atherosclerosis. *Basic Res Cardiol*, 96: 11-22
9. **Dimmeler S.**, Zeiher AM. (2002) PTEN-uating restenosis (Editorial) *Arterioscler. Thromb Vasc Biol*, 22:715-716
10. Chavakis E., **Dimmeler S.** (2002) Regulation of endothelial cell survival and apoptosis during angiogenesis. *Arterioscler. Thromb Vasc Biol*, 22:887-893
11. **Dimmeler S.**, Urbich C., Zeiher AM. (2002) Endothelial cell apoptosis under fluid flow. *Microcirculation*
12. **Dimmeler S.**, Haendeler J., Zeiher AM. (2002) Regulation of endothelial cell apoptosis in atherothrombosis. *Current Opinion in Lipidology*, 13:531-536
13. Walter DW., **Dimmeler S.** (2002) Endothelial Progenitor Cells: regulation and contribution to adult neovascularization. *Herz*, 27:579-88
14. Badorff C., **Dimmeler S.** (2003) NO balance: regulation of the cytoskeleton in congestive heart failure by nitric oxide. *Circulation*; 107:1348-1349
15. **Dimmeler S.**, Zeiher AM. (2003) Exercise and cardiovascular health: get active to "AKTivate" your endothelial nitric oxide synthase. *Circulation*; 107:3118-3120
16. **Dimmeler S.**, Vasa-Nicotera M. (2003) Aging of progenitor cells: limitation for regenerative capacity? *J Am Coll Cardiol*; 42:2081-2082
17. Walter DH., Zeiher AM., **Dimmeler S.** (2004) Effects of statins on endothelium and their contribution to neovascularization by mobilization of endothelial progenitor cells. *Coron Artery Dis*, 15:235-42
18. Honold J., Assmus B., Lehman R., Zeiher AM., **Dimmeler S.** (2004) Stem cell therapy of cardiac disease: an update. *Nephrol Dial Transplant*, 19:1673-7
19. Urbich C., **Dimmeler S.** (2004) CD40 and vascular inflammation. *Can J Cardiol*, 20:681-3
20. Losordo DW., **Dimmeler S.** (2004) Therapeutic angiogenesis and vasculogenesis for ischemic disease: part I: angiogenic cytokines. *Circulation*, 109:2487-91
21. Losordo DW., **Dimmeler S.** (2004) Therapeutic angiogenesis and vasculogenesis for ischemic disease: part II: cell-based therapies. *Circulation*, 109:2692-7
22. Urbich C, **Dimmeler S.** (2004) Endothelial progenitor cells functional characterization. *Trends Cardiovasc Med.*, 14:318-22
23. Rössig L, Urbich C, **Dimmeler S.** (2004) Endothelial progenitor cells at work: not mature yet, but already stress-resistant. *Arterioscler Thromb Vasc Biol.*, 24:1977-9
24. Walter DH, **Dimmeler S.**, Zeiher AM. (2004) Effects of statins on endothelium and endothelial progenitor cell recruitment. *Semin Vasc Med.*, 4:385-93
25. Aicher A, Heeschen C, **Dimmeler S.** (2004) The role of NOS3 in stem cell mobilization. *Trends Mol Med.*, 10:421-5
26. **Dimmeler S.**, Zeiher AM. (2004) Vascular repair by circulating endothelial progenitor cells: the missing link in atherosclerosis? *J Mol Med (Berl)*, 82:671-7
27. Urbich C, **Dimmeler S.** (2004) Endothelial progenitor cells: characterization and role in vascular biology. *Circ Res.*, 95:343-53
28. **Dimmeler S.**, Zeiher AM. (2004) Wanted! The best cell for cardiac regeneration. *J Am Coll Cardiol*, 44:464-6
29. Aicher A., Zeiher AM., **Dimmeler S.** (2005) Mobilizing endothelial progenitor cells. *Hypertension*, 45:321-5
30. **Dimmeler S.**, Zeiher AM., Schneider MD. (2005) Unchain my heart: the scientific foundations of cardiac repair. *J Clin Invest*, 115:572-83

31. Urbich C., **Dimmeler S.** (2005) Risk factors for coronary artery disease, circulating endothelial progenitor cells, and the role of HMG-CoA reductase inhibitors. *Kidney Int*, 67:1672-6
32. **Dimmeler S.** (2005) ATVB in focus: novel mediators and mechanisms in angiogenesis and vasculogenesis. *Arterioscler Thromb Vasc Biol.*, 25:2245
33. **Dimmeler S.** (2005) Platelet-derived growth factor CC--a clinically useful angiogenic factor at last? *N Engl J Med*, 352:1815-6
34. Bengel FM., Schaechinger V., **Dimmeler S.** (2005) Cell-based therapies and imaging in cardiology. *Eur J Nucl Med Mol Imaging*
35. Badorff C., **Dimmeler S.** (2006) Neovascularization and cardiac repair by bone marrow-derived stem cells. *Handb Exp Pharmacol*, 283-98
36. Haendeler J., **Dimmeler S.** (2006) Inseparably tied: functional and antioxidative capacity of endothelial progenitor cells. *Circ Res*, 98:157-8
37. Urbich C, Rössig L, **Dimmeler S.** (2006) Restoration of cardiac function with progenitor cells. *Novartis Found Symp*, 274:214-23
38. Schächinger V., **Dimmeler S.**, Zeiher AM. (2006) [Stem cells after myocardial infarction]. *Herz*, 31:127-36
39. Schaechinger V., Tonn T., **Dimmeler S.**, Zeiher AM. (2006) Bone-marrow-derived progenitor cell therapy in need of proof of concept: design of the REPAIR-AMI trial. *Nat Clin Pract Cardiovasc Med*, 1:S23-S28
40. **Dimmeler S.**, Burchfield J., Zeiher AM. (2007) Cell-Based Therapy of Myocardial Infarction. *Arterioscler Thromb Vasc Biol*, 28:208-216
41. Spyridopoulos I., **Dimmeler S.** (2007) Can telomere length predict cardiovascular risk? *Lancet*, 369:81-2
42. Seeger F., Zeiher AM., **Dimmeler S.** (2007) Cell-enhancement strategies for the treatment of ischemic heart disease. *Nat Clin Pract Cardiovasc Med*, 4 Suppl 1:S110-3
43. Kovacic JC., Harvey RP., **Dimmeler S.** (2007) Cardiovascular regenerative medicine: digging in for the long haul. *Cell Stem Cell*, 1:628-33
44. **Dimmeler S.**, Zeiher AM. (2007) A "reductionist" view of cardiomyopathy. *Cell*, 130:401-2
45. Potente M., **Dimmeler S.** (2008) NO targets SIRT1: a novel signaling network in endothelial senescence. *Arterioscler Thromb Vasc Biol*, 28:1577-9
46. Potente M., **Dimmeler S.** (2008) Emerging roles of SIRT1 in vascular endothelial homeostasis. *Cell Cycle*, 7:2117-22
47. Tjwa M., **Dimmeler S.** (2008) A nucleolar weapon in our fight for regenerating adult hearts: nucleostemin and cardiac stem cells. *Circ Res*, 103:4-6
48. Urbich C., Kuehbacher A., **Dimmeler S.** (2008) Role of microRNAs in vascular diseases, inflammation, and angiogenesis. *Cardiovasc Res*, 79:581-8
49. **Dimmeler S.**, Leri A. (2008) Aging and disease as modifiers of efficacy of cell therapy. *Circ Res*, 102:1319-30
50. Chavakis E., Urbich C., **Dimmeler S.** (2008) Homing and engraftment of progenitor cells: a prerequisite for cell therapy. *J Mol Cell Cardiol*, 45:514-22
51. Kuehbacher A., Urbich C., **Dimmeler S.** (2008) Targeting microRNA expression to regulate angiogenesis. *Trends Pharmacol Sci*, 29:12-5
52. Sherman W., **Dimmeler S.**, Hare JM., Penn M. (2008) Cardiovascular repair and regeneration 2008: the fourth International Conference on Cell Therapy for Cardiovascular Disease (IC3D). *EuroIntervention.*, 4:47-9
53. Burchfield J., **Dimmeler S.** (2008) Role of paracrine factors in stem and progenitor cell mediated cardiac repair and tissue fibrosis. *Fibrogenesis Tissue Repair*, 1:4
54. **Dimmeler S.**, Tjwa M. (2008) Better regenerative output after cellular input: healing hearts by combining basic fibroblast factor and cell-based therapy. *J Am Coll Cardiol*, 52:1866-8
55. **Dimmeler S.**, Zeiher AM. (2009) Cell therapy of acute myocardial infarction: open questions. *Cardiology*, 113:155-60
56. Braun T., **Dimmeler S.** (2009) Breaking the silence: stimulating proliferation of adult cardiomyocytes. *Dev Cell*, 17:151-3
57. Bonauer A., **Dimmeler S.** (2009) The microRNA-17 approximately 92 cluster: still a miRacle? *Cell Cycle*, 8:3866-73
58. Braun T., **Dimmeler S.** (2009) Breaking the silence: stimulating proliferation of adult cardiomyocytes. *Dev Cell*, 17:151-3
59. Chavakis E., Koyanagi M., **Dimmeler S.** (2010) Enhancing the outcome of cell therapy for cardiac repair: progress from bench to bedside and back. *Circulation*, 121:325-35
60. Bonauer A., Boon RA., **Dimmeler S.** (2010) Vascular microRNAs. *Curr Drug Targets*, 11:943-9
61. **Dimmeler S.**, Zeiher AM. (2010) Circulating microRNAs: novel biomarkers for cardiovascular diseases? *Eur Heart J*, 31:2705-7

62. **Dimmeler S.**, (2010) Regulation of bone marrow-derived vascular progenitor cell mobilization and maintenance. *Arterioscler Thromb Basc Biol*, 30:1088-93
63. Chavakis E., **Dimmeler S.** (2011) Homing of Progenitor Cells to Ischemic Tissues. *Antioxid Redox Signal*, 15:967-80
64. Ohtani K., **Dimmeler S.** (2011) Control of cardiovascular differentiation by microRNAs. *Basic Res Cardiol*, 106:5-11
65. Ohtani K., **Dimmeler S.** (2011) Epigenetic regulation of cardiovascular differentiation. *Cardiovasc Res*, 90:404-12
66. **Dimmeler S.**, Losordo D. (2011) Stem cells review series: an introduction. *Circ Res.*, 109:907-9
67. Fichtlscherer S., Zeiher AM., **Dimmeler S.** (2011) Circulating MicroRNAs: Biomarkers or Mediators of Cardiovascular Diseases? *Arterioscler Thromb Vasc Biol*, 31:2383-90
68. **Dimmeler S.** (2011) Cardiovascular disease review series. *EMBO Mol Med*, 3:697
69. Boon RA., **Dimmeler S.** (2011) MicroRNAs and aneurysm formation. *Trends Cardiovasc Med.*, 21:172-7
70. Fadini GP., Losordo D., **Dimmeler S.** (2012) Critical reevaluation of endothelial progenitor cell phenotypes for therapeutic and diagnostic use. *Circ Res.*, 110:624-37
71. Leistner DM., Seeger FH., **Dimmeler S.**, Zeiher AM., Assmus B. (2012) [Regenerative treatment of advanced heart disease]. *Dtsch Med Wochenschr.*, 137:732-7
72. Heinrich EM., **Dimmeler S.** (2012) MicroRNAs and stem cells: control of pluripotency, reprogramming, and lineage commitment. *Circ Res.*, 110:1014-22
73. Boon RA., **Dimmeler S.** (2011) MicroRNAs and aneurysm formation. *Trends Cardiovasc*, 21:172-7
74. **Dimmeler S.**, Nicotera P. (2013) MicroRNAs in age-related diseases. *EMBO Mol Med.*, 5:180-90
75. Seeger FH., Zeiher AM., **Dimmeler S.** (2013) MicroRNAs in stem cell function and regenerative therapy of the heart. *Arterioscler Thromb Vasc Biol.*, 33:1739-46
76. Welti J., Loges S., **Dimmeler S.**, Carmeliet P. (2013) Recent molecular discoveries in angiogenesis and antiangiogenic therapies in cancer. *J Clin Invest.*, 123:3190-200
77. Raizman JE., Diamandis EP., Rayner K., **Dimmeler S.**, Calin GA., Thum T. (2013) Novel Biomarkers for Acute Myocardial Infarction: Is MicroRNA the New Kid on the Block? *Clin Chem.* ---:---
78. Stellos K., **Dimmeler S.** (2014) Vascular microRNAs: from disease mechanisms to therapeutic targets. *Circ Res.*, 114:3-4
79. Manavski Y., Boon RA., **Dimmeler S.** (2014) Vascular niche controls organ regeneration. *Circ Res.*, 114:1077-9
80. Boon RA., **Dimmeler S.** (2014) MicroRNA-126 in Atherosclerosis. *Arterioscler Thromb Vasc Biol.*, pii: ATVB.AHA.114.303572.

Funding

Awards:

Alfried Krupp Award 2002 – 2008	0.5 Mio €
Leibniz Award	1.55 Mio €
Jung Award 2007	67.500 €

Peer-reviewed funding since 2005

Peer-reviewed national funding

Graduate school “Biologicals” (GRK1172) (2000-2013)	
Research Unit FOR501 Project Di 600/6-1,6-2,6-3,6-4 (2004 - 2009)	122.800 €/Year
Collaborative Research Center SFB553 (2004 - 2007) Project B6	127.200 €/Year
Collaborative Research Center TR-SFB23 (2005 – 2013; renewal 2013 - 2017)	101.400 €/Year
Excellence Cluster “Cardiopulmonary Systems” (Exc 147-1) (2006 – 2012; renewal 2012 - 2017)	ca.100.000 €/Year
Collaborative Research Center SFB834 (2010 – 2013; renewal 2014 - 2018)	319.012 €/Year
Collaborative Research Center SFB902 (2011 - 2015)	73.800 €/Year
LOEWE CGT “Cell and Gene Therapy”, State of Hesse (2011 – 2014)	150.000 €/Year
German Center for Cardiovascular Research (DZHK), BMBF (2011 – 2015)	60.000 €/Year
Cluster of Excellence “Macromolecular Complexes” (Exc 115) (2012-2017)	

Peer-reviewed international funding

Transatlantic Network of Excellence “Cardiac Regeneration”	
Leducq foundation (2004 - 2010)	278.000 €/Year
European Network of Excellence (EVGN) (2004 - 2008)	60.000 €/Year
Integrated Project Heart Repair (EU) (2006 – 2010)	100.000 €/Year
Integrated Project Angioscaff (EU) (2008 – 2012)	93.680 €/Year
ERC Advanced Grant (Angiomir) (2009 - 2014)	475.000 €/Year
Integrated Project (FP7) Endostem (EU) (2010 – 2014)	94.800 €/Year
Integrated Project (FP7) BestAging (EU) (2013 – 2017)	99.100 €/Year
Leducq foundation (2014 - 2010)	120.004 €/Year