

# INSTITUT FÜR PROPHYLAXE & EPIDEMIOLOGIE DER KREISLAUFKRANKHEITEN (IPEK)

DIREKTOR: UNIV.-PROF. DR. CHRISTIAN WEBER

**ANZAHL DER PLANSTELLEN FÜR WISSENSCHAFTLICHE MITARBEITER: 9**

**ANZAHL DER PLANSTELLEN FÜR NICHT-WISSENSCHAFTLICHE MITARBEITER: 8**

**ANZAHL ALLER DRITTMITTELFINANZIERTEN MITARBEITER: 39**

## DRITTMITTELAUSGABEN (IN €):

	Anzahl Projekte	Ausgaben 2011 laut Verwaltung
DFG	11	1.164.916
BMBF, StMWFK, EU	3	459.013
Stiftungen (Humboldt, Fondation Leducq, etc.)	9	338.340
<b>Summe begutachtete externe Drittmittel</b>		<b>1.962.269</b>

	Anzahl Projekte	Ausgaben 2011 laut Verwaltung
FöFoLe	1	16.625
Lebmit	8	13.941
<b>Summe interne Drittmittel</b>		<b>30.566</b>

<b>Gesamtsumme verausgabte Drittmittel</b>		<b>1.992.835</b>
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## PUBLIKATIONEN:

	Anzahl	ungewichteter IF
Im WoS gelistete Originalarbeiten, Reviews, Editorials	44	293.9
<u>Nicht</u> im WoS gelistete Originalarbeiten, Reviews, Editorials	-	-
Beiträge in Lehr-/Handbüchern, Monographien	-	-
<b>Gesamtsumme</b>	<b>44</b>	<b>293.9</b>

## 1. FORSCHUNGSSCHWERPUNKTE

- Chemokine und Chemokinrezeptoren bei entzündlicher und atherogener Leukozytenrekrutierung
- Rolle von Chemokinen und Chemokin-ähnliche Funktionen von MIF in der Atherosklerose und Restenose
- Struktur und Funktion der Heterooligomerisierung und Proteoglykanbindung von Chemokinen („Interaktom“)
- Signaltransduktion der Integrinregulation in Leukozyten und der endothelialen Aktivierung durch Zytokine
- Junktionale Adhäsionsmoleküle in der transendothelialen Diapedese und der vaskulären Entzündungsreaktion
- Chemokine und ihre Rezeptoren in der myokardialen Ischämie-Reperfusion und bei Myokardinfarkt
- Rolle von Leukozytensubpopulationen (Monozyten, T Zellen, dendritische Zellen, Mastzellen) in der Atherosklerose
- Regulation der Homöostase und Rekrutierung vaskulärer Vorläuferzellen in der Atherosklerose und nach Infarkt
- Physiologie und Pathophysiologie endothelialer Vorläuferzellen in der Endothelregeneration und Risikobestimmung
- Statine zur Prävention der Endotheldysfunktion und miniaturisierte, eluierende Formgedächtnis- und Polymer-Stents
- Intravitalmikroskopie, 2-Photonmikroskopie und Mechanismen der Plaquestabilisierung
- Transmembranäre Chemokine und proteolytische Spaltung durch ADAM Metalloproteasen

### 3. PUBLIKATIONEN

#### Originalarbeiten, Reviews, Editorials: gelistet im Web of Science (WoS)

- [1] Bampalis VG, Dwivedi S, Shai E, Brandl R, Varon D, **Siess W** (2011) Effect of 5-HT<sub>2A</sub> receptor antagonists on human platelet activation in blood exposed to physiological stimuli and atherosclerotic plaque. *J Thromb Haemost.* 9:2112-5. (Impact 5.439)
- [2] Butoi E, Gan AM, Manduteanu I, Stan D, Calin M, Pirvulescu M, Koenen RR, **Weber C**, Simionescu M (2011) Cross talk between smooth muscle cells and monocytes/activated monocytes via CX3CL1/CX3CR1 axis augments expression of pro-atherogenic molecules. *BBA Mol. Cell Res.* 1813:2026-35. (Impact 5.084)
- [3] de Jager SC, Bermúdez B, Bot I, Koenen RR, Bot M, Kavelaars A, de Waard V, Heijnen CJ, Muriana FJ, **Weber C**, van Berkel TJ, Kuiper J, Lee SJ, Abia R, Biessen EA (2011) Growth Differentiation Factor-15 deficiency protects against atherosclerosis by attenuating CCR2-mediated macrophage chemotaxis. *J. Exp. Med.* 208:217-25. (Impact 14.776)
- [4] Douma K, **Megens RT**, van Zandvoort MA. (2011) Optical molecular imaging of atherosclerosis using nanoparticles: shedding light on the darkness. *Wiley Interdiscip Rev Nanomed Nanobiotechnol.* 3:376-88. (Impact 1.604).
- [5] Engel D, Berchers L, Wijnands E, Seijkens T, Lievens D, Drechsler M, Gerdes N, Soehnlein O, Daemen MJ, Lutgens E (2011) Caveolin-1 deficiency decreases atherosclerosis by hampering leukocyte influx into the arterial wall and cell response. *FASEB J.* 25:3838-48. (Impact 6.515)
- [6] Frithiof R, Soehnlein O, Eriksson S, Fenhammar J, Hjelmqvist H, Lindbom L, Rundgren M. (2011) The effects of isoflurane anesthesia and mechanical ventilation on renal function during endotoxemia. *Acta Anaesthesiol Scand.* 55:401-10. (Impact 2.196)
- [7] Gerdes N, Zhu L, Ersoy M, Hermansson A, Hiemdahl P, Hu H, Hansson GK, Li, N. (2011) Platelets regulate CD4<sup>+</sup> T-cell differentiation via multiple chemokines in humans. *Thromb. Haemost.* 106:353-62 (Impact 4.701)
- [8] **Gerdes N**, Zirikli A (2011) Co-stimulatory molecules in and beyond co-stimulation – tipping the balance in atherosclerosis? *Thromb. Haemost.* 106:804-13. (Impact 4.701)
- [9] Goyal P, Behring A, Kumar A, **Siess W** (2011) STK35L1 associates with nuclear actin and regulates cell cycle and migration of endothelial cells. *PLoS One* 6:e16249. (Impact 4.411)
- [10] Grommes J, Soehnlein O (2011) Contribution of neutrophils to acute lung injury. *Mol. Med.* 17:293-307. (Impact 5.908)
- [11] Heinrichs D, Jung J, Offermanns C, Berres ML, Nellen A, Leng L, Schmitz P, Trautwein C, Bucala R, **Weber C**, Bernhagen J, Wasmuth HE (2011) Macrophage migration inhibitory factor (MIF) exerts anti-fibrotic effects in experimental liver fibrosis via CD74. *Proc. Natl. Acad. Sci. USA*, 108:17444-9. (Impact 9.771)
- [12] Hristov M, **Weber C** (2011) Differential role of monocyte subsets in atherosclerosis. *Thromb. Haemost.* 106:757-62. (Impact 4.701)
- [13] Khandoga AL, Pandey D, Welsch U, Brandl R, **Siess W** (2011) GPR92/LPA<sub>5</sub> lysophosphatidate receptor mediates megakaryocytic cell shape change induced by human atherosclerotic plaques. *Cardiovasc. Res.* 90:157-64. (Impact 6.051)
- [14] Koenen RR, **Weber C** (2011) Chemokines: new targets in atherosclerosis. *EMBO Mol. Med.* 3:713-25. (Impact 8.833)
- [15] Kraemer S, Lue H, Zerneck A, Kapurniotu A, Andreetto E, Frank R, Lennartz B, **Weber C**, Bernhagen J (2011) MIF-chemokine receptor interactions in atherogenesis are dependent on an N-loop-based two-site binding mechanism. *FASEB J.* 25:894-906. (Impact 6.515)
- [16] Kramp B, Sarabi A, Koenen RR, **Weber C** (2011) Heterophilic chemokine receptor interactions in chemokine signaling and biology. *Exp. Cell Res.* 317:655-663. (Impact 3.609)
- [17] Kuijpers MJ, **Megens RT**, Nikoohesal E, Feijge MA, De Mey JG, Oude Egbrink MG, van Giezen JJ, Heemskerk (2011) Role of newly formed platelets in thrombus formation in rat after clopidogrel treatment: comparison of the reversible binding P2Y<sub>12</sub> antagonist ticagrelor. *Thromb. Haemost.* 106:804-13. (Impact 4.701)
- [18] Liehn E, Tuchscheerer N, Kanzler I, Drechsler M, Fraemohs L, Schuh A, Koenen R, Zandler S, Soehnlein O, Hristov M, Grigorescu G, Urs A, Leabu M, Bucur I, Merx M, Zerneck A, Bernhagen J, Schober A, **Weber C** (2011) Double-edged role of the CXCL12-CXCR4 axis in experimental myocardial infarction. *J. Am. Coll. Cardiol.* 58:2415-23. (Impact 14.292)
- [19] Lievens D, von Hundelshausen P (2011) Platelets and atherosclerosis *Thromb. Haemost.* 106:827-38. (Impact 4.701)
- [20] **Lutgens E**, Binder CJ (2011) Immunology of atherosclerosis. *Thromb. Haemost.* 106:755-6. (Impact 4.701)
- [21] Lip GYH, **Weber C** (2011) Clinical and basic science articles from Thrombosis and Hemostasis. *Thromb. Haemost.* 105:202-5. (Impact 4.701)
- [22] **Megens RT**, Kemmrich K, Pyta J, Weber C, Soehnlein O (2011) Intravital imaging of phagocyte recruitment. *Thromb. Haemost.* 105:802-10. (Impact 4.701)
- [23] **Megens RT**, Soehnlein O (2011) Seeing is believing; an update on modalities to image inflammation in vivo. *Thromb. Haemost.* 105:774-5. (Impact 4.701)
- [24] Noels H, Bernhagen J, **Weber C** (2011) In *MIF: Most Interesting Factor revisited*, edited by R. Bucala, World Scientific Publishing (Impact 0.500)
- [25] Noels H, **Weber C** (2011) Catching up with important players in atherosclerosis: type I interferons and neutrophils. *Curr. Opin. Lipidol.* 22:144-5. (Impact 6.636)
- [26] Poggi, Engel D, Christ A, Beckers L, Wijnands E, Boon L, Driessen A, Cleutjens J, **Weber C**, Gerdes N, Lutgens E (2011) CD40L deficiency ameliorates adipose tissue inflammation and metabolic manifestations of obesity in mice. *Arterioscler. Thromb. Vasc. Biol.* 31:2251-60. (Impact 7.215)
- [27] Rana OR, Saygili E, Buhr A, Saygili E, Gemein C, Mischke K, Nolte KW, Weis J, **Weber C**, Marx N, Schauerte P (2011) Chronic electrical neuronal stimulation increases cardiac parasympathetic tone by eliciting neurotrophic effects. *Circ. Res.* 108:1209-19. (Impact 9.504)
- [28] Reitsma S, Oude Egbrink MG, Heijnen VV, **Megens RT**, Engels W, Vink H, Slaaf DW, van Zandvoort MA

- (2011) Endothelial glycocalyx thickness and platelet-vessel wall interactions during atherogenesis. *Thromb. Haemost.* 106:939-46. **(Impact 4.701)**
- [29] Sarabi A, Kramp B, **Weber C**, Koenen R, von Hundelshausen P (2011) CXCL4L1 inhibits angiogenesis and induces undirected endothelial migration without affecting proliferation or monocyte recruitment. *J. Thromb. Haemost.* 9:209-19. **(Impact 5.439)**
- [30] Saygili E, Schauerte P, Pekassa M, Saygili E, Rackauskas G, Schwinger RHG, Weis J, **Weber C**, Marx N, Rana OR (2011) Sympathetic neurons express and secrete MMP-2 and MT1-MMP to control nerve sprouting via pro-NGF conversion. *Cell. Mol. Neurobiol.* 31:17-25. **(Impact 2.423)**
- [31] Schober LJ, Khandoga AL, Dwivedi S, Penz SM, Maruyama T, Brandl R, **Siess W** (2011) The role of PGE(2) in human atherosclerotic plaque on platelet EP(3) and EP(4) receptor activation and platelet function in whole blood. *J. Thromb. Thrombolysis* 32:158-66. **(Impact 1.539)**
- [32] Schober A, Hristov M, Forbrig R, Kofler S, Löhr B, Schumann U, Krötz F, Leibig M, König A, Kazcmerek I, Reichart B, Klauss V, **Weber C**, Sohn HY (2011) Smooth muscle progenitor cells and CXCL12 predict the severity of cardiac allograft vasculopathy. *Eur. Heart J.* 32:476-84. **(Impact 10.046)**
- [33] Schober A, **Weber C** (2011) Bone marrow-derived smooth muscle cells are breaking bad in atherogenesis. *Arterioscler. Thromb. Vasc. Biol.* 31:1258-9. **(Impact 7.215)**
- [34] Simons D, Grieb G, Hristov M, Pallua N, **Weber C**, Bernhagen J, Steffens G (2011) Hypoxia-induced endothelial secretion of macrophage migration inhibitory factor and role in endothelial progenitor cell recruitment. *J. Cell. Mol. Med.* 15:668-678. **(Impact 4.608)**
- [35] Soehnlein O, Wantha S, Simseyilmaz S, Doering Y, Megens RT, Mause SF, Drechsler M, Smeetz R, Einandy S, Schreiber F, Gries T, Ijayan S, van Zandvoort M, Agerberth B, Pham CT, Gallo RL, Hackeng TM, Liehn EA, Hristov M, Zerneck A, Klee D, **Weber C** (2011) Neutrophil-derived cathelicidin protects from neointimal hyperplasia. *Science Transl. Med.* 3:103ra98. **(Impact 3.511)**
- [36] Vasina EM, Cauwenberghs S, Feijge MAH, Heemskerk JWM, **Weber C**, Koenen RR (2011) Microparticles from apoptotic platelets promote resident monocyte subset differentiation. *Cell Death Dis.* 2:e210. **(Impact 0.200)**
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- [38] **Weber C**, Noels H (2011) Atherosclerosis: current pathogenesis and therapeutic options. *Nat. Med.* 17:1410-22. **(Impact 25.430)**
- [39] **Weber C**, Lip GYH (2011) Commencing 2011 with Thrombosis and Haemostasis - and looking to the future. *Thromb. Haemost.* 105:1-2. **(Impact 4.701)**
- [40] **Weber C**, Meiler S, Döring Y, Koch M, Drechsler M, **Megens RT**, Rowinska Z, Bidzhekov K, Fecher C, Ribechini E, van Zandvoort M, Binder C, Jelinek Y, Hristov M, Boon L, Jung S, Korn T, Lutz MB, Förster I, Zenke M, Hieronymus T, Junt T, Zerneck A (2011) CCL17-expressing dendritic cells drive atherosclerosis by restraining regulatory T-cell homeostasis in mice. *J. Clin. Invest.* 121:2898:2910. **(Impact 14.152)**
- [41] **Weber C**, Soehnlein O (2011) ApoE controls the interface linking lipids and inflammation in atherosclerosis. *J. Clin. Invest.* 121:3825-7. **(Impact 14.152)**
- [42] Wildhagen KC, **Lutgens E**, Loubele ST, Ten Cate H, Nicolaes GA (2011) The structure-function relationship of activated protein C. Lessons from natural and engineered mutations. *Thromb. Haemost.* 106:1034-45. **(Impact 4.701)**
- [43] Ylä-Herttuala S, Bentzon JF, Daemen MJAP, Falk E, Garcia HM, Herrmann J, Hofer I, Jukema JW, Krams R, Kwak B, Marx N, Naruszewicz M, Newby A, Pasterkamp G, Serruys PWJC, Waltenberger J, **Weber C**, Tokgözoğlu L (2011) Stabilisation of atherosclerotic plaques. *Thromb. Haemost.* 106:1-19. **(Impact 4.701)**
- [44] Zhou Z, Subramanian P, Sevilimis G, Globke B, Soehnlein O, Karshovska E, **Megens RT**, Heyll K, Reinholz M, van Zandvoort M, **Weber C**, Schober A (2011) Lipoprotein-derived lysophosphatidic acid enhances atherosclerosis through the release of CXCL1 from endothelium. *Cell Metab.* 13:592-600. **(Impact 18.207)**