

## 6. Literaturverzeichnis

- 1.) Ali H, Christensen SB, Foreman J, Pearce F, Piotrowski N, Thastrup O. The ability of thapsigargin and thapsigarginic to activate cells involved in the inflammatory response. *Br J Pharmacol* 1985; 85: 705 – 712
- 2.) Balasubramanyam M, Gardner JP. Protein kinase C modulates cytosolic free calcium by stimulating calcium pump activity in Jurkat T cells. *Cell Calcium*. 1995; 18: 526 – 541
- 3.) Belch JJ, Mackay IR Hill A, Jennings P, McCollum P. Oxidative stress is present in atherosclerotic peripheral arterial disease and further increased by diabetes mellitus. *Int J Angiol*. 1995; 14: 385 – 388
- 4.) Byyny RL, Loverde M, Lloyd S, Mitchell W, Draznin B. Cytosolic calcium and insulin resistance in elderly patients with essential hypertension. *Am J Hypertension* 1992; 5: 459 – 464
- 5.) Ceriello A, Taboga C, Tonutti L, Quagliario L, Piconi L, Bais B, Da Ros R, Motz E. Evidence for an independent and cumulative effect of postprandial hypertriglyceridaemia and hyperglycaemia on endothelial dysfunction and oxidative stress generation: effects of short - and long – term simvastatin treatment. *Circulation* 2002; 106: 1211 – 1218
- 6.) Chen DP, Jimenez E, Ataka K, Levitsky S, Feinberg H. Fura 2 determination of  $[Ca^{2+}]_i$  in isolated perfused heart using R wave – gated electromechanical shutters. *J Appl Physiol*. 1994; 76: 1394 – 1399
- 7.) Christopher J, Velarde V, Zhang D, Mayfield D, Mayfield RK, Jaffa AA. Regulation of B(2) – kinin receptors by glucose in vascular smooth muscle cells. *Am J Circ Physiol*. 2001; 280: H1537 – 1546
- 8.) Da Ros R, Assaloni R, Ceriello A. Postprandial hyperglycaemia and diabetic complications. *Recenti Prog Med* 2005; 96: 436 – 444
- 9.) Dang L, Seale JP, Qu X. High glucose – induced human umbilical vein endothelial cell hyperpermeability is dependent on protein kinase C activation and independent of the  $Ca^{2+}$  nitric oxide signalling pathway. *Clin Exp Pharmacol Physiol*. 2005; 32: 771 – 776

- 10.) De Nicola H, Szejnfeld J, Logullo AF, Wolosker AM, Souza LR, Chiferi V Jr. Flow pattern and vascular resistive index as predictors of malignancy risk in thyroid follicular neoplasms. *J Ultrasound Med.* 2005; 24: 897 – 904
- 11.) Evenas J, Malmendal A, Forsen S. Calcium. *Curr Opin Chem Biol.* 1998; 2: 293 – 302
- 12.) Ferretti G, Bacchetti T, Diludovico F, Viti B, Angeleri VA, Danni M, Provinciali L. Intracellular oxidative activity and respiratory burst of leucocytes isolated from multiple sclerosis patients. *Neurochem Int.* 2005; [Epub ahead of print]
- 13.) Frecker H, Munk S, Wang H, Whiteside C. Mesangial cell – reduced signalling in high glucose is due to inactivation of phospholipase C – beta3 by protein kinase C. *Am J Physiol.* 2005; 289: F1078 – 1087
- 14.) Fu Y, Wang S, Lu Z. The relationship between insulin resistance and abnormalities of cellular calcium metabolism and cell membrane abnormalities in patients with essential hypertension. *Zhonghua Yi Xue Za Zhi.* 1997; 77: 443 – 446
- 15.) Fumiyoshi K, Masazumi A, Katsutaro S. Relation between cold pressure test and development of hypertension based on 28 – year follow – up. *Hypertension.* 1995; 25: 71 – 76
- 16.) Gajewski E, Rao G, Nackerdien Z, Dizdarolu M. Modification of DANN bases in mammalian chromatin by radiation – generated free radicals. *Biochemistry* 1990; 29: 7876 – 7882
- 17.) Gonzalez F, Rote NS, Minium J, Kirwan JP. Reactive oxygen species – induced oxidative stress in the development of insulin resistance and hyperandrogenism in polycystic ovary syndrome. *J Clin Endocrinol Metab.* 2005; [Epub ahead of print]
- 18.) Greiling H, Gressner AM. Lehrbuch der Klinischen Chemie und Pathobiochemie. Schattauer Verlag Stuttgart , New York , 2. Auflage 1989, S. 92 – 95
- 19.) Griendling KK, Sorescu D, Lassegue B, Ushio – Fukai M. Modulation of protein kinase activity and gene expression by reactive oxygen species and their role in vascular physiology and pathophysiology. *Arterioscler Thromb Vasc Biol.* 2000; 20: 2175 – 2183
- 20.) Griendling KK, Sorescu D, Ushio – Fukai M. NAD(P)H oxidase: role in cardiovascular biology and disease. *Circ Res.* 2000; 86: 494 – 501

- 21.) Grynkiewicz G, Poenie M, Tsien RY: A new generation of  $\text{Ca}^{2+}$  indicators with greatly improved fluorescence properties. *J Biol Chem.* 1985; 260: 3440 – 3450
- 22.) Gutteridge JMC, Westermarck T, Halliwell B. Oxygen radical damage in biological systems. *Alan R Liss Inc* New York, 1985; 99 – 139
- 23.) Hakii H, Fujikii H, Suganuma M, Nakayasu M, Tahira T, Sugimura T, Scheurer P, Christensen SB. Thapsigargin, a histamine secretagogue, is a non – 12 – O – tetra – decanoylphorbol – 13 – acetate (TPA) type tumor promoter in two – stage mouse skin carcinogenesis. *Cancer Res Clin Oncol* 1986; 111: 177 – 181
- 24.) Hayashi H, Miyata H. Fluorescence imaging of intracellular  $\text{Ca}^{2+}$ . *J Pharmacol Toxicol Methods.* 1994; 31: 1 – 10
- 25.) Heinecke JW. Oxidants and antioxidants in the pathogenesis of atherosclerosis: implications for the oxidized low density lipoprotein hypothesis. *Atherosclerosis.* 1998; 141: 1 – 15
- 26.) Herold, G. Innere Medizin: Eine vorlesungsorientierte Darstellung. Köln, 2004; S. 249 - 253
- 27.) Horio T, Suzuki M, Takamisawa I, Suzuki K, Hiuge A, Yoshimasa Y, Kawano Y. Pioglitazone – induced insulin sensitization improves vascular endothel function in nondiabetic patients with essential hypertension. *Am J Hypertension* 2005; 18: 1626 – 1630
- 28.) Karczewski P, Kuschel M, Baltas LG, Bartel S, Krause EG. Site – specific phosphorylation of a phospholamban peptide by cyclic nucleotide – and calcium calmodulin – dependent protein kinases of cardiac sarcoplasmic reticulum. *Bas Res Cardiol* 1997; 92: 37 – 43
- 29.) Karow, T, Lang R. Allgemeine und spezielle Pharmakologie und Toxikologie. Köln, 11. Auflage, 2003; S. 518 - 534
- 30.) Keller, Matthias. Endotheliale Superoxidanionen – Bildung: Rolle der NAD(P)H – Oxidase und ihre Modulation durch das Membranpotential. Dissertation, LMU München, Medizinische Fakultät, 2002; Abstract
- 31.) Kerr S, Brosnan MJ, McIntyre M, Reid JL, Dominiczak AF, Hamilton CA. Superoxide anion production is increased in a model of genetic hypertension. *Hypertension.* 1999; 33: 1353 – 1358

- 32.) Kindmark H, Kohler M, Arkhammar P, Efendic S, Larsson O, Linder S, Nilsson T, Berggeren PO. Oscillations in cytoplasmatic free calcium concentration in human pancreatic islets from subjects with normal and impaired glucose tolerance. *Diabetologia*. 1994; 37: 1121 – 1131
- 33.) Kirischuk S, Verkhratsky A. Calcium homeostasis in aged neurones. *Life Sci*. 1996; 59: 451 - 459
- 34.) Krause U, Hahn D, Schultz G, Kenn W, Wittenberg G, Pabst T. Nichtinvasive Gefäßdiagnostik: Fortschritt für den Patienten. *Deutsches Ärzteblatt* 2000; 97: A – 2527
- 35.) Krück F. Säure – Basen – Haushalt. Pathophysiologie – Pathobiochemie, Urban & Schwarzenberg Berlin, 2. Auflage 1994, S. 574 - 587
- 36.) Kwan CY, Chaudhary R, Zheng XF, Ni J, Lee RM. Effects of sarcoplasmatic calcium pump inhibitors on vascular smooth muscle cells. *Hypertension*. 1994; 23: 156 – 160
- 37.) Lee VM, Quinn Pa, Jennings SC, Leong L. Neutrophil activation and production of reactive oxygen species in pre – eclampsia. *J Hypertens*. 2003; 21: 395 – 402
- 38.) Leoncini G, Martinoli C, Viazzi F, Ravera M, Parodi D, Ratto E, Vettoretti S, Tomolillo C, Derchi LE, Deferrari G, Pontremoli R. Changes in renal resistive index and urinary albumin excretion in hypertensive patients under long – term treatment with Lisinopril or Nifedipine GITS. *Nephron* 2002; 90: 169 – 173
- 39.) Lewartowski B, Wolska BM. The effect of thapsigargin on sarcoplasmatic reticulum; calcium content and contractions in single myocytes of guinea pig. *J Mol Cell Cardiol* 1993; 25: 23 – 29
- 40.) Lind L, Johansson K, Hall J. The effects of mental stress and the cold pressure test on flow – mediated vasodilation. *Blood Press*. 2002; 11: 22 – 27
- 41.) Lockette W, Otsuka Y, Carretero O. The loss of endothelium – dependent vascular relaxation in hypertension. *Hypertension*. 1986; 8: II61 – II66
- 42.) Lucas M, Díaz P. Thapsigargin – induced calcium entry and apoptotic death of neutrophils are blocked by activation of protein kinase C. *J Exp Clin Pharmacol* 2001; 63: 191 – 196
- 43.) Luo SF, Tsao HL, Ong R, Hsieh JT, Yang CM. Inhibitory effect of phorbol ester on bradykinin – induced phosphoinositide hydrolysis and calcium mobilization cultured

- canine tracheal smooth muscle cells. *Cell Signal*. 1995; 7: 571 – 581
- 44.) Manabe S, Okura T, Watanabe S, Higaki J. Association between carotid haemodynamics and inflammation in patients with essential hypertension. *J Hum Hypertens*. 2005; 19: 787 – 791
- 45.) Manicassamy S, Sadim M, Ye RD, Sun Z. Differential roles of PKC – theta in the regulation of intracellular calcium concentration in primary T – cells. *J Mol Biol*. 2006; 355: 347 – 359
- 46.) McIntosh DB. Portrait of a P – type pump. *Nat Struct Biol*. 2000; 7: 532 – 535
- 47.) Millasseau SC, Kelly RP, Ritter JM, Chowienczyk PJ. The vascular impact of aging and vasoactive drugs: comparison of two digital volume pulse measurements. *Am J Hypertens*. 2003; 16: 467 - 472.
- 48.) Mork AC, Zhang GH, Martinez JR. Modulation of Ca<sup>2+</sup> mobilization by protein kinase C in rat submandibular acinar cells. *J Cell Biochem*. 1999; 72: 47 – 55
- 49.) Neusser M, Golinski P, Zhu Z, Zidek W, Tepel M. Thapsigargin – intensive calcium pools in vascular smooth muscle cells. *Clin Exp Hypertens*. 1999; 21: 395 – 405
- 50.) Neusser M, Tepel M, Golinski P, Holthues J, Spieker C, Zhu Z, Zidek W. Different calcium storage pools in vascular smooth muscle cells from spontaneously hypertensive and normotensive Wistar - Kyoto rats. *J Hypertens*. 1994; 12: 533 – 538
- 51.) Nomura Y, Asano M, Ito K, Uyama Y, Imaizumi Y, Watanabe M. Potent vasoconstrictor actions of cyclopiazonic acid and thapsigargin on femoral arteries from spontaneously hypertensive rats. *Br J Pharmacol*. 1997; 120: 65 – 73
- 52.) Nutt LK, O’Neil RG. Effect of elevated glucose on endothelin – induced store – operated and non - store – operated calcium influx in renal mesangial cells. *Am J Nephrol*. 2000; 11: 1225 – 1235
- 53.) Oehler G. Compact Lehrbuch Innere Medizin. Schattauer Verlag Gießen, 2. Auflage 1996, S. 69 – 70
- 54.) Ohno Y, Suzuki H, Yamakawa H, Nakamura M, Saruta T. Insulin sensitivity and calcium homeostasis in young, lean, normotensive male subjects. *Hypertens Res*. 2000; 23: 433 – 440

- 55.) Ohta Y, Fujii K, Arima H, Matsamura K, Tsuchihashi T, Tokumoto M, Tsuruya K, Kanai H, Iwase M, Hirakata H, Iida M. Increased renal resistive index in atherosclerosis and diabetic nephropathy assessed by Doppler sonography. *Hypertension* 2005; 23: 1905 – 1911
- 56.) Orié NN, Zidek W, Tepel M. Chemoattractant – and mitogen – induced generation of reactive oxygen species in human lymphocytes: the role of calcium. *Exp Physiol.* 1999; 84: 515 – 520
- 57.) Orié NN, Zidek W, Tepel M. Reactive oxygen species in essential hypertension and non – insulin – dependent diabetes mellitus. *Hypertension* 1999; 12: 1169 – 1174
- 58.) Orié NN, Zidek W, Tepel M. Tyrosine and calcium/calmodulin kinases are common signaling components in the generation of reactive oxygen species in human lymphocytes. *Life Sci.* 1999; 65: 2135 – 2142
- 59.) Pardo J, B1P6eto R, Rabinerson D, Bar J, Hod M, Kaplan B. Fetal middle – cerebral and umbilical artery flow assessments after glucose challenge test. *Int J Gynaecol Obstet.* 1999; 65: 255 – 259
- 60.) Peper RJ, Tina WZ, Mickelson MM. Purification of lymphocytes and plateletes by gradient centrifugation. *J Lab Clin Med* 1968; 72: 842 – 848
- 61.) Pritchard K, Raine AEG, Ashley CC, Castell LM, Somers V, Osborn C, Ledingham JGG, Conway J. Correlation of blood pressure in normotensive individuals with platelet but not lymphocyte intracellular free calcium concentrations. *Clin Sci* 1989; 76: 631 – 635
- 62.) Procopio M, Magro G, Cesario F, Piovesan A, Pia A, Molineri N, Boretta G. The oral glucose tolerance test reveals a high frequency of both impaired glucose tolerance and undiagnosed Type 2 diabetes mellitus in primary hyperparathyroidism. *Br J Diabetes.* 2002; 19: 958 - 961
- 63.) Racke FK, Nemeth EF. Cytosolic calcium homeostasis in bovine parathyroid cells and its modulation by protein kinase C. *J Physiol.* 1993; 468: 141 – 162
- 64.) Raiteri M, Ferrareso M, Pozzoli E, Beretta C, Pasciucco A, Carini M, Berardinelli L. Value of intraoperative resistive index in kidney transplant. *Tranplant Proc.* 2005; 37: 2472 – 2473
- 65.) Rajagopalan S, Meng XP, Ramasamy S, Harrison DG, Galis ZS. Reactive oxygen species produced by macrophage – derived foam cells regulate the activity of

- vascular matrix metalloproteinases in vitro. *J Clin Invest.* 1996; 98: 2572 – 2579
- 66.) Ramm B, Hoffmann G. Biomathematik. Springer Verlag Heidelberg, New York, 1990
- 67.) Roche Lexikon Medizin, 5. Auflage, Urban & Fischer Verlag, München 2003
- 68.) Sachs L. Angewandte Statistik. Springer Verlag Berlin, Heidelberg, New York, 6. Auflage 1984
- 69.) Sagara Y, Inesi G. Inhibition of the sarcoplasmic reticulum calcium transport ATPase by thapsigargin at subnanomolar concentrations. *J Biol Chem* 1991; 266: 13502 – 13506
- 70.) Schatzmann HJ. The calcium pump of the surface membrane and of the sarcoplasmic reticulum. *Ann Rev Physiol* 1989; 51: 473 – 485
- 71.) Schleicher E, Weigert C, Rohrbach H, Nerlich A, Bachmeier B, Friess U. Role of glucoxidation and lipid oxidation in the development of atherosclerosis. *Ann NY Acad Sci.* 2005; 1043: 343 – 354
- 72.) Schultz D, Harrison DG. Quest of fire: seeking the source of pathogenetic oxygen species in atherosclerosis. *Arterioscler Thromb Vasc Biol.* 2000; 20: 1529 – 1535
- 73.) Schulze PC, Yoshioka J, Takahashi T, He Z, King GL, Lee RT. Hyperglycaemia promotes oxidative stress through inhibition of thioredoxin function by thioredoxin – interacting protein. *Biol Chem.* 2004; 279: 30369 – 30374
- 74.) Shivnan E, Alexander DR. Protein kinase C activation inhibits TCR – mediated calcium influx but not inositol triphosphate production in HPB – ALL T cells. *J Immunol.* 1995; 154: 1146 – 1156
- 75.) Siems WG, Sommerburg O, Mayer H, Grune T. Die wichtigsten Radikalquellen im menschlichen Organismus. *Pharm Z.* 1998; 143: 1515 – 1527
- 76.) Stiefel P, Miranda ML, Muniz O, Nieto MD, Jiménez L, Villar J. Abnormal glycemic metabolism in essential hypertension. Role of the oral glucose tolerance test. *Med Clin (Barc)* 2005; 125: 179 – 189
- 77.) Swei A, Lacy F, De Lano FA, Schmid – Schonbein GW. Oxidative stress in the Dahl

- hypertensive rat. *Hypertension* 1997; 30: 1628 - 1633
- 78.) Taddei S, Virdis A, Ghiadoni L. Age – related reduction of NO availability and oxidative stress in humans. *Hypertension* 2001; 38: 274 - 279
- 79.) Tang XF, Li H, Wang JG, Chu SL, Guo JZ, Zhu DL. Insulin secretion and insulin sensitivity in 1193 patients with essential hypertension. *Zhonghua nei ke za zhi [Chinese journal of internal medicine]* 2004; 43: 735 – 739
- 80.) Tepel M, Ruess C, Mehring N, Neusser M, Zidek W. Effect of inhibition of sarcoplasmic  $\text{Ca}^{2+}$  - ATPase on vasoconstriction and cytosolic  $\text{Ca}^{2+}$  in aortic smooth muscle from spontaneously hypertensive and normotensive rats. *Clin Exp Hypertens*. 1994; 16: 493 – 506
- 81.) Tepel M, Zidek W. Hypertensive crisis: pathophysiology, treatment and handling of complications. *Kidney Int Suppl*. 1998; 64: S2 – 5
- 82.) Tepel M. Oxidative stress: does it play a role in the genesis of essential hypertension and hypertension of uraemia? *Nephrol Dial Transplant* 2003; 18: 1439 - 1442
- 83.) Touyz RM, Schiffrin EL. Insulin – induced  $\text{Ca}^{2+}$  transport is altered in vascular smooth muscle cells of spontaneously hypertensive rats. *Hypertension* 1994; 23: 931 – 935
- 84.) Traore K, Trush MA, George M Jr, Spannhake EW, Anderson W, Asseffa A. Signal transduction of phorbol – 12 – myristate - 13 – acetate (PMA) – induced growth inhibition of human monocytic leukaemia THp – 1 cells is reactive oxygen species dependent. *Leuk Res*. 2005; 29: 863 – 379
- 85.) Trubiani O, Di Primio R, Zamai L, Bosco D, Bollum FJ, Vitale M. Phorbol ester – induced effects on cell cycle progression and terminal TdT activity in KM – 3 pre – B cell line *Immunol Lett*. 1993; 35: 265 – 269
- 86.) Tsien RY, Rink TJ, Poenie M. Measurement of cytosolic free  $\text{Ca}^{2+}$  in individual small cells using fluorescence microscopy with dual excitation wavelength. *Cell Calcium*. 1985; 6: 145 – 157
- 87.) Tsuchiya M, Suzuki E, Egawa K, Nishio Y, Maegawa H, Morikawa S, Inubushi T, Kashiwagi A. Abnormal peripheral circulation in type 2 diabetic patients with normal ankle – brachial index associates with coronary atherosclerosis, large artery stiffness and peripheral vascular resistance. *Diabetes Res Clin Pract*. 2005; 70: 253 – 262



- 88.) Umeki S. Mechanisms for activation electron transfer of neutrophil NADPH – oxidase complex and molecular pathology of chronic granulomatous disease. *Ann Hematol* 1994; 68: 267 - 277
- 89.) Valensise H, Romanini C. Second – trimester uterine artery flow velocity waveform and oral glucose tolerance test as a means of predicting intrauterine growth retardation. *Ultrasound Obstet Gynaecol.* 1993; 3: 412 – 416
- 90.) Wang R, Sauve R, de Champlain J. Abnormal regulation of cytosolic free calcium in vascular endothelial cells from spontaneously hypertensive rats. *J Hypertens.* 1995; 13: 993 – 1001
- 91.) Weber T. Augmentationsindex: Beurteilung der Gefäßelastizität von Hypertonikern. *J Hyperton.* 2002; Sonderheft
- 92.) Weetman AP, Mc Gregor AM, Hall R. Phorbol myristate acetate inhibits immunoglobulin synthesis by human peripheral blood lymphocytes. *Immunol Lett.* 1982; 5: 29 – 33
- 93.) Whitacre CM, Cathcart MK. Oxygen free radical generation and regulation of proliferative activity of human mononuclear cells responding to different mitogens. *Cell Immunol.* 1992; 144: 287 – 295
- 94.) Williams DA, Fogarty KE, Tsien RY, Fay FS. Calcium gradients in single smooth muscle cells revealed by the digital imaging microscope using Fura 2. *Nature.* 1985; 318: 558 – 561
- 95.) Yasunari K, Maeda K, Nakamura M, Yoshikawa J. Oxidative stress in leukocytes is a possible link of blood pressure, blood glucose and C – reacting protein. *Hypertension* 2002; 39: 777 – 780
- 96.) Zakhariyeva S. Arterial hypertension and obesity – a dangerous combination. *Vutr Boles.* 1999; 31: 28 – 32
- 97.) Zalba G, Beaumont FJ, San Jose G, Fortuno A, Fortuno MA, Etayo JC, Diez J. Vascular NADH/NADPH oxidase is involved in enhanced superoxyde production in spontaneously hypertensive rats. *Hypertension* 2000; 35: 1055 – 1061
- 98.) Zalba G, Beaumont J, San Jose G, Fortuno A, Fortuno MA, Diez J. Vascular oxidant stress: molecular mechanisms and pathophysiological implications. *Physiol Biochem.* 2000; 56: 57 - 64

- 99.) Zentrale Einrichtung für Klinische Chemie, Universitätsklinikum Ulm, 2003
- 100.) Zhu Z, Tepel M, Neusser M, Mehring N, Zidek W. Concentration – dependent effects of insulin on  $\text{Ca}^{2+}$  influx in vascular smooth muscle cells of normotensive and spontaneously hypertensive rats. *Clin Sci (Lond)* 1993; 85: 425 – 429