

Literaturverzeichnis

- [1] Alvarez, V., Coto, E., Setien, F., Gonzalez-Roces, S. und Lopez-Larrea, C.: *Molecular evolution of the N-formyl peptide and C5a receptors in non-human primates*. Immunogenetics, 44:446–452, 1996.
- [2] Ancian, P., Lambeau, G., Mattei, M.G. und Lazdunski, M.: *The human 180-kDa receptor for secretory phospholipases A₂. Molecular cloning, identification of a secreted soluble form, expression and chromosomal localization*. J. Biol. Chem., 270:8963–8970, 1995.
- [3] Andreani, M., Olivier, J.L., Berenbaum, F., Raymondjean, M. und Bereziat, G.: *Transcriptional regulation of inflammatory secreted phospholipases A₂*. Biochim. Biophys. Acta, 1488:149–158, 2000.
- [4] Atta-ur-Rahman, Harvey, K. und Siddiqui, R.A.: *Interleukin-8: An autocrine inflammatory mediator*. Curr. Pharm. Des., 5:241–253, 1999.
- [5] Bainton, D.F.: *Neutrophil granules: A review*. Am. J. Med. Technol., 42:15–21, 1976.
- [6] Balboa, M.A., Balsinde, J., Jones, S.S. und Dennis, E.A.: *Identity between the Ca²⁺-independent phospholipase A₂ enzymes from P388D1 macrophages and Chinese hamster ovary cells*. J. Biol. Chem., 272:8576–8580, 1997.
- [7] Balsinde, J., Balboa, A. und Dennis, E.: *Antisense Inhibition of Group VI [Ca²⁺]_i-independent phospholipase A₂ blocks phospholipid fatty acid remodeling in murine P388D₁*. J. Biol. Chem., 272:29317–29321, 1997.
- [8] Balsinde, J., Balboa, M.A. und Dennis, E.A.: *Inflammatory activation of arachidonic acid signaling in murine P388D1 macrophages via sphingomyelin synthesis*. J. Biol. Chem., 272:20373–20377, 1997.
- [9] Balsinde, J., Balboa, M.A. und Dennis, E.A.: *Functional coupling between secretory phospholipase A₂ and cyclooxygenase-2 and its regulation by cytosolic group IV phospholipase A₂*. Proc. Natl. Acad. Sci. USA, 95:7951–7956, 1998.

-
- [10] Balsinde, J. und Dennis, E.: *Bromo-enol lactone inhibits magnesium-dependent phosphatidate phosphohydrolase and blocks triacylglycerol biosynthesis in mouse P388D₁ macrophages*. J. Biol. Chem., 271:31937–31941, 1996.
- [11] Balsinde, J. und Dennis, E.: *Distinct roles in signal transduction for each of the phospholipase A₂ enzymes present in P388D₁ macrophages*. J. Biol. Chem., 271:6758–6765, 1996.
- [12] Balsinde, J. und Dennis, E.: *Function and inhibition of intracellular [Ca²⁺]_i-independent phospholipase A₂*. J. Biol. Chem., 272:16069–16072, 1997.
- [13] Barnette, M.S., Rush, J., Marshall, L., Foley, J., Schmidt, D. und Sarau, H.: *Effects of Scalaradial, a novel inhibitor of 14 kDa phospholipase A₂, on human neutrophil function*. Biochem. Pharmacol., 47:1661–1668, 1994.
- [14] Bartoli, F., Lin, H.K., Ghomashchi, F., Gelb, M.H., Jain, M.K. und Apitz-Castro, R.: *Tight binding inhibitors of 85-kDa phospholipase A₂ but not 14-kDa phospholipase A₂ inhibit release of free arachidonate in thrombin-stimulated human platelets*. J. Biol. Chem., 269:15625–15630, 1994.
- [15] Bates, E.J.: *Eicosanoids, fatty acids and neutrophils: their relevance to the pathophysiology of disease*. Prostaglandins Leukot. Essent. Fatty Acids, 53:75–86, 1995.
- [16] Baultry, S.A. und Wooten, R.E.: *Leukotriene B₄ and platelet activating factor production in permeabilized human neutrophils: role on cytosolic phospholipase A₂ in LTB₄ and PAF generation*. Biochim. Biophys. Acta, 63:1303–1308, 1996.
- [17] Baultry, S.A. und Wooten, R.E.: *Induction of cytosolic phospholipase A₂ activity by phosphatic acid and diglycerides in permeabilized human neutrophils: interrelationship between phospholipases D and A₂*. Biochem. J., 322:353–363, 1997.
- [18] Belinson, J., Morton, R.E. und Xu, Y.: *Phorbol 12-myristate 13-acetate stimulates lysophosphatic acid secretion from ovarian and cervical cancer cells but not from breast or leukemia cells*. Gynecol. Oncol., 71:364–368, 1998.
- [19] Bellavita, P.: *The superoxide-forming enzymatic system of phagocytes*. Free Radic. Bio. Med., 4:225–261, 1988.
- [20] Billah, M.M., Eckel, S., Mullmann, T.J., Egan, R.W. und Siegel, M.I.: *Phosphatidylcholine hydrolysis by phospholipase D determines phosphatidate and diglyceride levels in chemotactic peptide-stimulated human neutrophils. Involvement of phosphatidate phosphohydrolase in signal transduction*. J. Biol. Chem., 264:17069–17077, 1989.
- [21] Binder, R., Kress, A., Kan, G., Herrmann, K. und Kirschfink, M.: *Neutrophil priming by cytokines and vitamin D binding protein (Gc-globulin): impact on C5a-mediated chemotaxis, degranulation and respiratory burst*. Mol. Immunol., 36:885–892, 1999.

-
- [22] Bligh, E.G. und Dyer, W.D.: *A rapid method of lipid extraction and purification*. Canadian J. Biochem. Physiol., 37:911–917, 1959.
- [23] Blobe, G, Khan, W. und Hannun, Y.: *Protein kinase C: cellular target of the second messenger arachidonic acid*. Prostaglandins Leukot. Essent. Fatty Acids, 52:129–135, 1995.
- [24] Blom, M., Tool, A., Wever, P., Wolbink, G., Brouwer, M., Calafat, J., Egesten, A., Knol, E., Hack, C., Roos, D. und Verhoeven, A.: *Human eosinophils express, relative to other circulating leukocytes, large amounts of secretory 14-kD phospholipase A₂*. Blood, 91:3037–3043, 1998.
- [25] Borgeat, P. und Naccache, P.H.: *Biosynthesis and biological activity of leukotriene B₄*. Clin. Biochem., 23:459–468, 1990.
- [26] Borgeat, P. und Samulesson, B.: *Arachidonic acid metabolism in polymorphonuclear leukocytes: effects of ionophore A23187*. Proc. Natl Acad. Sci. USA, 76:2148–2152, 1979.
- [27] Bøyum, A.: *Separation of leukocytes from blood and bonemarrow*. Scand. J. Clin. Lab. Invest., 21 (Suppl. 97):77–89, 1968.
- [28] Bromberg, Y. und Pick, E.: *Activation of NADPH-dependent superoxide production in a cell-free system by sodium dodecyl sulfate*. J. Biol. Chem., 260:13539–13545, 1985.
- [29] Buckland, A.G. und Wilton, D.C.: *The antibacterial properties of secreted phospholipases A₂*. Biochim. Biophys. Acta, 1488:71–82, 2000.
- [30] Burke, J.R., Davern, L.B., Gregor, K.R. und Tramposh, K.M.: *Leukotriene B₄ stimulates the release of arachidonate in human neutrophils via the action of cytosolic phospholipase A₂*. Biochim Biophys Acta., 1359:80–88, 1997.
- [31] Cabanis, A., Gressier, B., Brunet, C., Dine, T., Luyckx, M., Cazin, M. und Cazin, J.C.: *Effect of the protein kinase C inhibitor GF 109 203X on elastase release and respiratory burst of human neutrophils*. Gen. Pharmacol., 27:1409–1414, 1996.
- [32] Clapham, D.E., Runnels, L.W. und Strubing, C.: *The TRP ion channel family*. Nat. Rev. Neurosci., 2:387–396, 2001.
- [33] Clark, J.D., Lin, L., Kriz, R.W., Ramesha, C.S., Sultzman, L.A., Lin, A.Y., Milona, N. und Knopf, J.L.: *A novel arachidonic acid-selective cytosolic phospholipase A₂ contains a calcium-dependent translocation domain with homology to PKC and GAP*. Cell, 65:1943–1951, 1991.
- [34] Cohen, D.M., Bhalla, S.C., Anaissie, E.J., Hester, J.P., Savary, C.A. und Rex, J.H.: *Effects of in vitro and in vivo cytokine treatment, leucopheresis and irradiation on the*

- function of human neutrophils: implications for white blood cell transfusion therapy.* Clin. Lab. Haematol., 19:39–47, 1997.
- [35] Condliffe, A.M., Kitchen, E. und Chilvers, E.R.: *Neutrophil priming: pathophysiological consequences and underlying mechanisms.* Clin. Sci. (Lond.), 94:461–471, 1998.
- [36] Crowl, R.M., Stoller, T.J., Conroy, R.R. und Stoner, C.R.: *Induction of phospholipase A₂ gene expression in human hepatoma cells by mediators of the acute phase response.* J. Biol. Chem., 266:2647–2651, 1991.
- [37] Dahlgren, C. und Follin, P.: *Degranulation in human neutrophils primes the cells for subsequent responsiveness to the chemoattractant N-formylmethionylleucylphenylalanine but does not increase the sensitivity of the NADPH-oxidase to an intracellular calcium rise.* Biochim. Biophys. Acta, 1052:42–46, 1990.
- [38] Dang, P.M., Dewas, C., Gaudry, M., Fay, M., Pedruzzi, E., Gougerot-Pocidallo, M.A. und El Benna, J.: *Priming of human neutrophil respiratory burst by granulocyte/macrophage colony-stimulating factor (GM-CSF) involves partial phosphorylation of p47(phox).* J. Biol. Chem., 274:20704–20708, 1999.
- [39] Dang, P.M., Fontayne, A., Hakim, J., El Benna, J. und Perianin, A.: *Protein kinase C zeta phosphorylates a subset of selective sites of the NADPH oxidase component p47 (phox) and participates in formyl peptide-mediated neutrophil respiratory burst.* J. Immunol., 166:1206–1213, 2001.
- [40] Daniels, R.H., Elmore, M.A., Hill, M.E., Shimizu, Y., Lackie, J.M. und Finnen, M.J.: *Priming of the oxidative burst in human neutrophils by physiological agonists or cytochalasin B results from the recruitment of previously non-responsive cells.* Immunology, 82:465–472, 1994.
- [41] Davies, EV, Campbell, AK und Hallett,MB: *Synchronous free Ca²⁺ changes in individual neutrophils stimulated by leukotriene B₄.* FEBS Lett., 291:135–138, 1991.
- [42] Davies, E.V. und Hallett, M.B.: *Cytosolic Ca²⁺ signalling in inflammatory neutrophils: implications for rheumatoid arthritis.* Int. J. Mol. Med., 1:485–490, 1998.
- [43] De Nardin, E. und Genco, R.J.: *Immunochemical characterization of the formyl peptide receptor moieties on human neutrophils.* Hybridoma, 10:49–63, 1991.
- [44] De Nardin, E., Radel, S.J. und Genco, R.J.: *Isolation and partial characterization of the formyl peptide receptor components on human neutrophils.* Biochem. Biophys. Res. Commun., 174:84–89, 1991.
- [45] Dennis, E.: *The growing phospholipase A₂ superfamily of signal transduction enzymes.* Trends Biochem. Sci., 22:1–2, 1997.

-
- [46] Dennis, E.A.: *Diversity of group types, regulation and function of phospholipase A₂*. J. Biol. Chem., 269:13057–13060, 1994.
- [47] Dewas, C., Fay, M., Gougerot-Pocidallo, M.A. und El-Benna, J.: *The mitogen-activated protein kinase extracellular signal-regulated kinase 1/2 pathway is involved in formyl-methionyl-leucyl-phenylalanine-induced p47phox phosphorylation in human neutrophils*. J. Immunol., 165:5238–5244, 2000.
- [48] Dillon, S.B., Verghese, M.W. und Snyderman, R.: *Signal transduction in cells following binding of chemoattractants to membrane receptors*. Virchows Arch. B. Cell. Pathol. Mol. Pathol., 55:65–80, 1988.
- [49] Düsing, R.: *Innere Sekretion – Gewebshormone – Eikosanoide*. In: Krüick, F. (Herausgeber): *Pathophysiologie Pathobiochemie*, 423–429. U & S, 1994.
- [50] Dunzendorfer, S., Schratzberger, P., Reinisch, N., Kahler, C.M. und Wiedermann, C.J.: *Augmentation of tumor necrosis factor-alpha-induced priming of fMet-Leu-Phe-stimulated neutrophils by pentoxifylline*. Immunol. Lett., 58:75–78, 1997.
- [51] Edwards, S.W.: *Neutrophils and host defence: The fight against infection*. In: *Biochemistry and physiology of the neutrophil*, 1–7. Cambridge University Press, 1994.
- [52] Elbim, C., Chollet-Martin, S., Bailly, S., Hakim, J. und Gougerot-Pocidallo, M.A.: *Priming of polymorphonuclear neutrophils by tumor necrosis factor alpha in whole blood: identification of two polymorphonuclear neutrophil subpopulations in response to formyl-peptides*. Blood, 82:633–640, 1993.
- [53] Elbim, C. und Gougerot-Pocidallo, M.A.: *Priming study of human phagocytes oxidative burst by using flow cytometry*. Hematol. Cell. Ther., 38:527–535, 1996.
- [54] Elferink, J.G.: *Thimerosal: a versatile sulfhydryl reagent, calcium mobilizer and cell function-modulating agent*. Gen. Pharmacol., 33:1–6, 1999.
- [55] English, D.: *Phosphatidic acid: a lipid messenger involved in intracellular and extracellular signaling*. Cell Signal, 8:341–347, 1996.
- [56] Ericson, S.G., Zhao, Y., Gao, H., Miller, K.L., Gibson, L.F., Lynch, J.P. und Landreth, K.S.: *Interleukin-6 production by human neutrophils after Fc-receptor cross-linking or exposure to granulocyte colony-stimulating factor*. Blood, 91:2099–2107, 1998.
- [57] Exton, D.: *New developments in Phospholipase D*. J. Biol. Chem., 272:15579–15582, 1997.
- [58] Faber, A. und Aviram, I.: *Human neutrophil cytosolic phospholipase C: partial characterization*. Biochim. Biophys. Acta, 1128:8–13, 1992.

- [59] Fonteh, A.N., Samet, J.M. und Chilton, F.H.: *Regulation of arachidonic acid, eicosanoid, and phospholipase A₂ levels in murine mast cells by recombinant stem cell factor*. J. Clin. Invest., 96:1432–1439, 1995.
- [60] Forsberg, M., Lofgren, R., Zheng, L. und Stendahl, O.: *Tumor necrosis factor α potentiates CR3-induced respiratory burst by activating P38 MAP kinase in human neutrophils*. Immunology, 103:465–472, 2001.
- [61] Fujita, K., Murakami, M., Yamashita, F., Amemiya, K. und Kudo, I.: *Phospholipase D is involved in cytosolic phospholipase-dependent selective release of arachidonic acid by fMLP-stimulated rat neutrophils*. FEBS Lett., 395:293–298, 1996.
- [62] Gao, J.L., Lee, E.J. und Murphy, P.M.: *Impaired antibacterial host defense in mice lacking the N-formylpeptide receptor*. J. Exp. Med., 189:657–662, 1999.
- [63] Gay, JC, Beckman, JK, Brash, AR, Oates, JA und Lukens, JN: *Enhancement of chemotactic factor-stimulated neutrophil oxidative metabolism by LTB₄*. Blood, 64:780–785, 1984.
- [64] Gerard, N.P., Bao, L., Xiao-Ping, H., Eddy, Jr, R.L., Shows, T.B. und Gerard, C.: *Human chemotaxis receptor genes cluster at 19q13.3-13.4. Characterization of the human C5a receptor gene*. Biochemistry, 32:1243–1250, 1993.
- [65] Golde, D.W.: *Overview of myeloid growth factors*. Semin. Hematol., 27:1–7, 1990.
- [66] Goldman, D.W.: *Regulation of the receptor system for leukotriene B₄ on human neutrophils*. Ann. N.Y. Acad. Sci., 524:187–195, 1988.
- [67] Graves, V, Gabig, T, McCarthy, L, Strour, EF und Leemhuis, T: *Simultaneous mobilization of Mac-1 (CD11b/CD18) and formyl peptide chemoattractant receptors in human neutrophils*. Blood, 81:1668, 1993.
- [68] Grynkiewicz, G, Poenie, M und Tsien, RY: *A new generation of Ca²⁺ indicators with greatly improved fluorescence properties*. J Biol Chem, 260:3440–3450, 1985.
- [69] Hageluen, A., Grunbaum, L., Nurnberg, B., Harhammer, R., Schunack, W. und Seifert, R.: *Lipophilic beta-adrenoceptor antagonists and local anesthetics are effective direct activators of G-proteins*. Biochem. Pharmacol., 47:1789–1795, 1994.
- [70] Haines, K.A., Giedd, K.N., Rich, A.M., Korchak, H.M. und Weissmann, G.: *The leukotriene B₄ paradox: neutrophils can, but will not, respond to ligand-receptor interactions by forming leukotriene B₄ or its ω -metabolites*. Biochem. J., 241:55–62, 1987.
- [71] Hamachi, T., Hirata, M. und Koga, T.: *Origin of intracellular calcium and quantitation of mobilizable calcium in neutrophils stimulated with chemotactic peptide*. Biochim. Biophys. Acta, 889:136–148, 1986.

- [72] Harakawa, N., Sasada, M., Maeda, A., Asagoe, K., Nohgawa, M., Takano, K., Matsuda, Y., Yamamoto, K. und Okuma, M.: *Random migration of polymorphonuclear leukocytes induced by GM-CSF involving a signal transduction pathway different from that of fMLP*. J. Leukoc. Biol., 61:500–506, 1997.
- [73] Haribabu, B., Richardson, R.M., Verghese, M.W., Barr, A.J., Zhelev, D.V. und Snyderman, R.: *Function and regulation of chemoattractant receptors*. Immunol. Res., 22:271–279, 2000.
- [74] Harvath, L.: *Neutrophil chemotactic factors*. Experientia. Supplementum, 59:35–52, 1991.
- [75] Hatzelmann, A., Haurand, M. und Ullrich, V.: *Involvement of calcium in the Thimerosal-stimulated formation of leukotriene by fMLP*. Biochem. Pharmacol., 39:559–567, 1990.
- [76] Hauser, C.J., Fekete, Z., Livingston, D.H., Adams, J., Garced, M. und Deitch, E.A.: *Major trauma enhances store-operated calcium influx in human neutrophils*. J. Trauma., 48:592–597; 597–598, 2000.
- [77] Hidi, R., Vargaftig, B.B. und Touqui, L.: *Increased synthesis and secretion of a 14-kDa phospholipase A₂ by guinea pig alveolar macrophages. Dissociation from arachidonic acid liberation and modulation by dexamethasone*. J. Immunol., 151:5613–5623, 1993.
- [78] Hinkovska-Galcheva, V., Kjeldsen, L., Mansfield, P.J., Boxer, L.A., Shayman, J.A. und Suchard, S.J.: *Activation of a plasma membrane-associated neutral sphingomyelinase and concomitant ceramide accumulation during IgG-dependent phagocytosis in human polymorphonuclear leukocytes*. Blood, 91:4761–4769, 1998.
- [79] Hirabayashi, T. und Shimizu, T.: *Localization and regulation of cytosolic phospholipase A₂*. Biochim. Biophys. Acta, 1488:124–138, 2000.
- [80] Hoffmeyer, F., Witte, K. und Schmidt, R.E.: *The high-affinity Fc gamma RI on PMN: regulation of expression and signal transduction*. Immunology, 92:544–552, 1997.
- [81] Houle, M.G. und Bourgoin, S.: *Small GTPase-regulated phospholipase D in granulocytes*. Biochem. Cell Biol., 74:459–467, 1996.
- [82] Hu, T.H., Bei, L., Qian, Z.M. und Shen, X.: *Intracellular free calcium regulates the onset of the respiratory burst of human neutrophils activated by phorbol myristate acetate*. Cell Signal, 11:355–360, 1999.
- [83] Johnson, J.L., Moore, E.E., Tamura, D.Y., Zallen, G., Biffi, W.L. und Silliman, C.C.: *Interleukin-6 augments neutrophil cytotoxic potential via selective enhancement of elastase release*. J. Surg. Res., 76:91–94, 1998.

-
- [84] Kaneko, K., Sakai, M., Matsumura, T., Biwa, T., Furukawa, N., Shirotani, T., Kiritoshi, S., Anami, Y., Matsuda, K., Sasahara, T. und Shichiri, M.: *Group-II phospholipase A₂ enhances oxidized low density lipoprotein-induced macrophage growth through enhancement of GM-CSF release.* *Atherosclerosis*, 153:37–46, 2000.
- [85] Kanzow, G.: *Hämatopoetisches System und Hämostasesystem – Blut.* In: Krück, F. (Herausgeber): *Pathophysiologie Pathobiochemie*, 628–629. U & S, 1994.
- [86] Kent, J., Sergeant, S., Burns, D. und McPhail, L.: *Identification and regulation of protein kinase C- δ in human neutrophils.* *J. Immunol.*, 157:4641–4647, 1996.
- [87] Kitagawa, S., Yuo, A., Yagisawa, M., Azuma, E., Yoshida, M., Furukawa, Y., Takahashi, M., Masuyama, J. und Takaku, F.: *Activation of human monocyte functions by tumor necrosis factor: Rapid priming for enhanced release of superoxide and erythrophagocytosis, but no direct triggering of superoxide release.* *Exp. Hematol.*, 24:559–567, 1996.
- [88] Kramer, R.M., Roberts, J. und Manetta, J.E.: *The [Ca²⁺]_i-sensitive cytosolic phospholipase A₂ is a 100 kDa protein in human monoblast U937 cells.* *J. Biol. Chem.*, 266:5268–5272, 1991.
- [89] Kramer, R.M. und Sharp, J.D.: *Structure, function and regulation of Ca²⁺-sensitive cytosolic phospholipase A₂.* *FEBS Lett.*, 410:49–53, 1997.
- [90] Krump, E. und Borgeat, P.: *Kinetics of 5-lipoxygenase activation, arachidonic acid release and leukotriene synthesis in human neutrophils: Effect of granulocyte macrophage colony-stimulating factor.* *Biochim. Biophys. Acta*, 1213:135–139, 1994.
- [91] Kuang, Y., Wu, Y., Smrcka, A., Jiang, H. und Wu, D.: *Identification of a phospholipase C β 2 region that interacts with G β - γ .* *Proc. Natl. Acad. Sci. USA*, 93:2964–2968, 1996.
- [92] Lala, A., Sojar, H.T. und De Nardin, E.: *Expression and purification of recombinant human N-formyl-L-leucyl-L-phenylalanine (fMLP) receptor: generation of polyclonal antibody against fMLP receptor.* *Biochem. Pharmacol.*, 54:381–390, 1997.
- [93] Lambeau, G. und Lazdunski, M.: *Receptors for a growing family of secreted phospholipases A₂.* *Trends Pharmacol. Sci.*, 20:162–170, 1999.
- [94] Lambeth, J.D.: *Activation of the respiratory burst oxidase in neutrophils: on the role of membrane-derived second messengers, Ca²⁺, and protein kinase C.* *J. Bioenerg. Biomembr.*, 20:709–733, 1988.
- [95] Lam, B.K., Gagnon, L., Austen, K.F. und Soberman, R.J.: *The mechanism of leukotriene B₄ export from human polymorphonuclear leukocytes.* *J. Biol. Chem.*, 265:13438–13441, 1990.

- [96] Leirisalo-Repo, M.: *The present knowledge of the inflammatory process and the inflammatory mediators*. Pharmacol. Toxicol., 75 Suppl 2:1–3, 1994.
- [97] Lewis, R.A. und Austen, K.F.: *The biologically active leukotrienes. Biosynthesis, metabolism, receptors, functions and pharmacology*. J. Clin. Invest., 73:889–897, 1984.
- [98] Lew, P.D.: *Receptors and intracellular signaling in human neutrophils*. Am. Rev. Respir. Dis., 141:127–131, 1990.
- [99] Lio, Y.C. und Dennis, E.A.: *Interfacial activation, lysophospholipase and transacylase activity of group VI Ca^{2+} -independent phospholipase A_2* . Biochim. Biophys. Acta, 1392:320–332, 1998.
- [100] Lio, Y.-C., Reynolds, L.J., Balsinde, J. und Dennis, E.A.: *Irreversible inhibition of Ca^{2+} -independent phospholipase A_2 by methyl arachidonyl fluorophosphate*. Biophys. Acta, 1302:55–60, 1996.
- [101] Liscovitch, M., Czarny, M., Fiucci, G. und Tang, X.: *Phospholipase D: Molecular and cell biology of a novel gene family*. Biochem. J., 345 Pt 3:401–415, 2000.
- [102] Li, Y. und Trush, M.: *Diphenyleneiodonium, an NADPH Oxidase Inhibitor, also potentially inhibits mitochondrial reactive oxygen species production*. Biochem. Biophys. Res. Commun., 253:295–299, 1998.
- [103] Longo, W.E., Grossmann, E.M., Erickson, B., Panesar, N., Mazuski, J.E. und Kaminski, D.L.: *The effect of phospholipase A_2 inhibitors on proliferation and apoptosis of murine intestinal cells*. J. Surg. Res., 84:51–56, 1999.
- [104] Malech, H.L., Gardner, J.P., Heiman, D.F. und Rosenzweig, S.A.: *Asparagine-linked oligosaccharides on formyl peptide chemotactic receptors of human phagocytic cells*. J. Biol. Chem., 260:2509–2514, 1985.
- [105] Malle, E., Leis, H.J., Karadi, I. und Kostner, G.M.: *Lipoxygenases and hydroperoxy/hydroxy-eicosatetraenoic acid formation*. Int. J. Biochem, 19:1013–1022, 1987.
- [106] Marasco, W.A., Fantone, J.C., Freer, R.J. und Ward, P.A.: *Characterization of the rat neutrophil formyl peptide chemotaxis receptor*. Am. J. Pathol., 111:273–281, 1983.
- [107] Marshall, L., Winkler, J., Griswold, D., Bolognese, B., Roshak, A., Sung, C., Webb, E. und Jacobs, R.: *Effects of Scalaradial, a Type II phospholipase A_2 inhibitor, on human neutrophil arachidonic acid mobilization and lipid mediator formation*. J. Pharmacol. Exp. Therap., 268:709–717, 1994.
- [108] Marshall, L.A., Hall, R.H., Winkler, J.D., Badger, A., Bolognese, B., Roshak, A., Flamberg, P.L., Sung, C.M., Chabot-Fletcher, M., Adams, J.L. und Mayer, R.J.: *SB 203347*,

- an inhibitor of 14 kDa phospholipase A₂, alters human neutrophil arachidonic acid release and metabolism and prolongs survival in murine endotoxin shock.* J. Pharmacol. Exp. Therap., 274:1254–1262, 1995.
- [109] Maxey, K. und Donald, J.: *A short Phospholipase review.* Cayman Chemical, 8:1–5, 1998.
- [110] McDonald, P.P., Pouliot, M., Borgeat, P. und McColl, S.R.: *Induction by chemokines of lipid mediator synthesis in granulocyte-macrophage colony-stimulating factor-treated human neutrophils.* J. Immunol., 151:6399–6409, 1993.
- [111] McGuire, J., McGee, J., Crittenden, N. und Fitzpatrick, F.: *Cell damage unmasks 15-lipoxygenase activity in human neutrophils.* J. Biol. Chem., 15:8316–8319, 1985.
- [112] Meldolesi, J. und Pozzan, T.: *The endoplasmic reticulum Ca²⁺ store: a view from the lumen.* Trends Biochem. Sci., 23:10–14, 1998.
- [113] Metcalf, D.: *The molecular control of granulocytes and macrophages.* Ciba Found. Symp., 204:40–50; discussion 50–60, 1997.
- [114] Müller, S. und Nigam, S.: *Arachidonic acid release and platelet-activating factor formation by staurosporine in human neutrophils challenged with N-formyl peptides.* Eur. J. Pharmacol., 218:251–258, 1992.
- [115] Mosior, M., Six, D.A. und Dennis, E.A.: *Group IV cytosolic phospholipase A₂ binds with high affinity and specificity to phosphatidylinositol 4,5-bisphosphate resulting in dramatic increases in activity.* J. Biol. Chem., 273:2184–2191, 1998.
- [116] M'Rabet, L., Coffey, P., Zwartkruis, F., Franke, B., Segal, A.W., Koenderman, L. und Bos, J.L.: *Activation of the small GTPase Rap1 in human neutrophils.* Blood, 92:2133–2140, 1998.
- [117] Murakami, M., Nakatani, Y., Atsumi, G., Inoue, K. und Kudo, I.: *Regulatory functions of phospholipase A₂.* Crit. Rev. Immunol., 17:225–283, 1997.
- [118] Murakami, M., Shimbara, S., Kambe, T., Kuwata, H., Winstead, M.V., Tischfield, J.A. und Kudo, I.: *The functions of five distinct mammalian phospholipase sPLA₂ in regulating arachidonic acid release. Type IIa and type V secretory phospholipase A₂ are functionally redundant and act in concert with cytosolic phospholipase A₂.* J. Biol. Chem., 273:14411–14423, 1998.
- [119] Nemenoff, R.A., Winitz, S. und Johnson, G.L.: *Phosphorylation and activation of a high molecular weight form of phospholipase A₂ by a p42 microtubule-associated protein kinase and protein kinase.* J. Biol. Chem., 268:1960–1964, 1993.

- [120] Nigam, S., Eskafi, S., Garlichs, C., Firth, S. und Zhang, H.: *Role of intracellular calcium in the regulation of phospholipase A₂ in fMet-Leu-Phe-challenged human polymorph neutrophils*. In: Schror, K. (Herausgeber): *mediators in the cardiovascular system: regional*, 297–301. Birkhäuser Verlag, Basel, 1995.
- [121] Nigam, S., Müller, S. und Walzog, B.: *Effect of staurosporine on fMet-Leu-Phe-stimulated human neutrophils: Dissociated release of inositol 1,4,5-trisphosphate, diacylglycerol and intracellular calcium*. *Biochim. Biophys. Acta*, 1135:301–308, 1992.
- [122] Nigam, S., Nodes, S., Cichon, G., Corey, E.J. und Pace-Asiak, C.R.: *Receptor-mediated action of heparin A3 releases diacylglycerol and arachidonic acid from human neutrophils*. *Biochem. Biophys. Res. Commun.*, 171:944–948, 1990.
- [123] Nishizuka, Y.: *The heterogeneity and differential expression of multiple species of the protein kinase C family*. *Biofactors*, 1:17–20, 1988.
- [124] Nixon, J.B. und McPhail, L.C.: *Protein kinase C (PKC) isoforms translocate to Triton-insoluble fractions in stimulated human neutrophils: correlation of conventional PKC with activation of NADPH oxidase*. *J Immunol*, 163:4574–4582, 1999.
- [125] Nugteren, D.H.: *Arachidonate lipoxygenase in blood platelets*. *Biochem. Biophys. Acta*, 380:299–307, 1975.
- [126] O'Donnell, V.B., Tew, D.G., Jones, O.T.G. und England, P.J.: *Studies on the inhibitory mechanism of iodonium compounds with special reference to neutrophil NADPH oxidase*. *Biochem. J.*, 290:41–49, 1993.
- [127] Offermanns, S.: *The role of heterotrimeric G proteins in platelet activation*. *Biol. Chem.*, 381:389–396, 2000.
- [128] O'Flaherty, J.T., Chadwell, B.A., Kearns, M.W., Sergeant, S. und Daniel, L.W.: *Protein kinases C translocation responses to low concentrations of arachidonic acid*. *J. Biol. Chem.*, 276:24743–24750, 2001.
- [129] Ohno, S., Akita, Y., Hata, A., Osada, S., Kubo, K., Konno, Y., Akimoto, K., Mizuno, K., Saïdo, T. und Kuroki, T.: *Structural and functional diversities of a family of signal transducing protein kinases, protein kinase C family; two distinct classes of PKC, conventional cPKC and novel nPKC*. *Adv. Enzyme. Regul.*, 31:287–303, 1991.
- [130] Olson, S.C. und Lambeth, J.D.: *Biochemistry and cell biology of phospholipase D in human neutrophils*. *Chem. Phys. Lipids*, 80:3–19, 1996.
- [131] Panaro, M.A. und Mitolo, V.: *Cellular responses to fMLP challenging: a mini-review*. *Immunopharmacol. Immunotoxicol.*, 21:397–419, 1999.

- [132] Panchenko, M.P., Saxena, K., Li, Y., Charnecki, S., Sternweis, P.M., Smith, T.F., Gilman, A.G., Kozasa, T. und Neer, E.J.: *Sites important for PLC β 2 activation by the G protein betagamma subunit map to the sides of the beta propeller structure.* J. Biol. Chem., 273:28298–28304, 1998.
- [133] Perez, H.D.: *Biologically active complement (C5)-derived peptides and their relevance to disease.* Crit. Rev. Oncol. Hematol., 1:199–225, 1984.
- [134] Perez, H.D., Elfman, F., Lobo, E., Sklar, L., Chenoweth, D. und Hooper, C.: *A derivative of wheat germ agglutinin specifically inhibits formyl-peptide-induced polymorphonuclear leukocyte chemotaxis by blocking re-expression (or recycling) of receptors.* J. Immunol., 136:1803–1812, 1986.
- [135] Perez, H.D., Elfman, F., Marder, S., Lobo, E. und Ives, H.E.: *Formyl peptide-induced chemotaxis of human polymorphonuclear leukocytes does not require either marked changes in cytosolic calcium or specific granule discharge. Role of formyl peptide receptor reexpression (or recycling).* J. Clin. Invest., 83:1963–1970, 1989.
- [136] Peters-Golden, M., Song, K., Marshall, T. und Brock, T.: *Translocation of cytosolic phospholipase A₂ to the nuclear envelope elicits topographically localized phospholipid hydrolysis.* Biochem. J., 318:797–803, 1996.
- [137] Petrich, K., Ludwig, P., Kuhn, H. und Schewe, T.: *The suppression of 5-lipoxygenation of arachidonic acid in human polymorphonuclear leukocytes by the 15-lipoxygenase product (15S)-hydroxy-(5Z,8Z,11Z,13E)-eicosatetraenoic acid: structure-activity relationship and mechanism of action.* Biochem. J., 314 (Pt 3):911–916, 1996.
- [138] Pierce, K.L., Premont, R.T. und Lefkowitz, R.J.: *Seven-transmembrane receptors.* Nat. Rev. Mol. Cell. Biol., 3:639–650, 2002.
- [139] Pontremoli, S. und Melloni, E.: *The role of intracellular proteinases in human neutrophil activation.* Revis. Biol. Celular., 20:161–177, 1989.
- [140] Pouliot, M., McDonald, P., Krump, E., Mancini, J.A., McColl, S.R. und Brock, T.: *Translocation of cytosolic phospholipase A₂ to the nuclear envelope elicits topographically localized phospholipid hydrolysis.* Biochem. J., 318:797–803, 1996.
- [141] Prossnitz, E.R. und Ye, R.D.: *The N-formyl peptide receptor: a model for the study of chemoattractant receptor structure and function.* Pharmacol Ther, 74:73–102, 1997.
- [142] Ramanadham, S., Gross, W. und Han, X. and Turk, J.: *Inhibition of arachidonate release by secretagogue-stimulated pancreatic islets suppresses both insulin secretion and the rise in beta-cell cytosolic calcium ion concentration.* Biochemistry, 21:337–342, 1993.

- [143] Rao, G., Bass, A., Glasgow, W., Eling, T., Runge, M. und Alexander, R.: *Activation of mitogen-activated protein kinases by arachidonic acid and its metabolites in vascular smooth muscle cells*. J. Biol. Chem., 269:32586–32590, 1994.
- [144] Rebecchi, M.J. und Pentylala, S.N.: *Structure, function and control of phosphoinositide-specific phospholipase C*. Physiol. Rev., 80:1291–1335, 2000.
- [145] Rhee, S.G. und Bae, Y.S.: *Regulation of phosphoinositide-specific phospholipase C isozymes*. J. Biol. Chem., 272:15045–15048, 1997.
- [146] Riede, U.-N., Herbst, E.W., Böhm, N. und Schäfer, H.-E.: *Störungen der Individualitätswahrung – Entzündungspathologie*. In: Riede, U.-N. und Schäfer, H.-E. (Herausgeber): *Allgemeine und spezielle Pathologie*, 213–214. Thieme Verlag Stuttgart New York, 1995.
- [147] Rosengren, S., Henson, P.M. und Worthen, G.S.: *Migration-associated volume changes in neutrophils facilitate the migratory process in vitro*. Am. J. Physiol., 267:1623–1632, 1994.
- [148] Rosenthal, M.D., Gordon, M.N., Buescher, E.S., Slusser, J.H., Harris, L.K. und Fran-son, R.C.: *Human neutrophils store type II 14-kDa phospholipase A₂ in granules and secrete active enzyme in response to soluble stimuli*. Biochem. Biophys. Res. Commun., 208:650–656, 1995.
- [149] Sahnoun, Z., Jamoussi, K. und Zeghal, K.M.: *Free radicals and antioxidants: Physiology, human pathology and therapeutic aspects (part II)*. Therapie, 53:315–339, 1998.
- [150] Sambrook, J., Fritsch, E.F. und Maniatis, T.: *Molecular Cloning – A Laboratory Manual*. Cold Spring Harbor Laboratory Press, 1989.
- [151] Samuelsson, B.: *Arachidonic acid metabolism: role in inflammation*. Z. Rheumatol., 50 Suppl 1:3–6, 1991.
- [152] Samuelsson, B., Dahlen, S., Lindgren, J., Rouzer, C. und Serhan, R.: *Leukotrienes and lipoxins: structures, biosynthesis and biological effects*. Science, 237:1171–1176, 1987.
- [153] Sato, T., Nakajim, H., Fujio, K. und Mori, Y.: *Enhancement of prostaglandin E₂ production by epidermal growth factor requires the coordinate activation of cytosolic phospholipase A₂ and cyclooxygenase 2 in human squamous carcinoma A431 cells*. Prostaglandins, 53:355–369, 1997.
- [154] Scapini, P., Lapinet-Vera, J.A., Gasperini, S., Calzetti, F., Bazzoni, F. und Cassatella, M.A.: *The neutrophil as a cellular source of chemokines*. Immunol. Rev., 177:195–203, 2000.

- [155] Schaefer, U., Schneider, A., Rixen, D. und Neugebauer, E.: *Neutrophil adhesion to histamine stimulated cultured endothelial cells is primarily mediated via activation of phospholipase C and nitric oxide synthase isozymes*. *Inflamm. Res.*, 47:256–64, 1998.
- [156] Schatz-Munding, M., Hatzelmann, A. und Ullrich, V.: *The involvement of extracellular calcium in the formation of 5-lipoxygenase metabolites by human polymorphonuclear leukocytes*. *Eur. J. Biochem.*, 197:487–493, 1991.
- [157] Schechtman, D. und Mochly-Rosen, D.: *Adaptor proteins in protein kinase C-mediated signal transduction*. *Oncogene*, 20:6339–6347, 2001.
- [158] Schiebler, T.H., Peiper, U. und Schneider, F.: *Blut*. In: *Histologie*, 275–278. Springer Verlag, 1986.
- [159] Sellmayer, A., Strasser, T. und Weber, P.C.: *Differences in arachidonic acid release, metabolism and leukotriene B₄ synthesis in human polymorphonuclear leukocytes activated by different stimuli*. *Biochim. Biophys. Acta*, 927:417–422, 1987.
- [160] Serhan, R.: *Changes in phosphatidylinositol and phosphatic acid in stimulated human neutrophils. Relationship to calcium mobilisation, aggregation and superoxide radical generation*. *Biochim. Biophys. Acta*, 762:420–428, 1983.
- [161] Serhan, R., Radin, A., Smolen, J.E., Marcus, A.J. und Weissmann, G.: *Leukotriene B₄ is a complete secretagogue in human neutrophils: a kinetic analysis*. *Biochem. Biophys. Res. Commun.*, 107:1006–1012, 1983.
- [162] Siddiqui, R.A. und English, D.: *Phosphatic acid elicits calcium mobilization and actin polymerization through a tyrosine kinase-dependent process in human neutrophils: a mechanism for induction of chemotaxis*. *Biochim. Biophys. Acta*, 1349:81–95, 1997.
- [163] Siflinger-Birnboim, A. und Malik, A.B.: *Regulation of endothelial permeability by second messengers*. *New horizons*, 4:87–98, 1996.
- [164] Sigal, E., Grundberger, D., Craik, C.S., Caughey, G.H. und Nadel, J.A.: *Arachidonate 15-lipoxygenase (ω -6 lipoxygenase) from human leukocytes. Purification and structural homology to other mammalian lipoxygenases*. *J. Biol. Chem.*, 263:5328–5332, 1988.
- [165] Six, D. und Dennis, E.: *The expanding superfamily of phospholipase A₂ enzymes: classification and characterization*. *Biochim. Biophys. Acta*, 1488:1–19, 2000.
- [166] Snyder, F.: *Platelet-activating factor and related acetylated lipids as potent biologically active cellular mediators*. *Am. J. Physiol.*, 259:C697–C708, 1990.
- [167] Soliven, G., Takeda, M., Shandy, T. und Nelson, D.: *Arachidonic acid and its metabolites increase Ca^{2+}_i in cultured rat oligodendrocytes*. *Am. J. Physiol.*, 264:632–638, 1993.

-
- [168] Spiegel, A.M.: *Signal transduction by guanine nucleotide binding proteins*. Mol. Cell. Endocrinol., 49:1–16, 1987.
- [169] Stendahl, O., Krause, K.H., Krischer, J., Jerstrom, P., Theler, J.M., Clark, R.A., Carpentier, J.L. und Lew, D.P.: *Redistribution of intracellular Ca^{2+} stores during phagocytosis in human neutrophils*. Science, 265:1439–1441, 1994.
- [170] Stenson, W.F. und Parker, C.: *Metabolism of arachidonic acid in ionophore-stimulated neutrophils: esterification of a hydroxylated metabolite into phospholipids*. J. Clin. Invest., 64:1457–1465, 1979.
- [171] Sternfeld, L., Thevenod, F. und Schulz, I.: *fMLP-induced arachidonic acid release in db-cAMP-differentiated HL-60 cells is independent of phosphatidylinositol-4, 5-bisphosphate-specific phospholipase C activation and cytosolic phospholipase A_2 activation*. Arch. Biochem. Biophys., 378:246–258, 2000.
- [172] Sternfeld, L., Thevenod, F. und Schulz, I.: *fMLP-induced arachidonic acid release in db-cAMP-differentiated HL-60 cells is independent of phosphatidylinositol-4, 5-bisphosphate-specific phospholipase C activation and cytosolic phospholipase A_2 activation*. Arch. Biochem. Biophys., 378:246–258, 2000.
- [173] Street, I.P., Lin, H.-K., Laliberte, F., Ghomashchi, F., Wang, Z., Perrier, H., Tremblay, N.M., Huang, Z., Weech, P. und Gelb, M.: *Slow and tight inhibitors of the 85-kDa human Phospholipase A_2* . Biochem., 32:5935–5940, 1993.
- [174] Surette, M.E., Dallaire, N., Jean, N., Picard, S. und Borgeat, P.: *Mechanism of the priming effect of lipopolysaccharides on the biosynthesis of leukotriene B_4 in chemotactic peptide-stimulated human neutrophils*. FASEB J., 12:1521–1531, 1998.
- [175] Surette, M.E., Krump, E., Picard, S. und Borgeat, P.: *Activation of leukotriene synthesis in human neutrophils by exogenous arachidonic acid: inhibition by adenosine $A(2a)$ receptor agonists and crucial role of autocrine activation by leukotriene B_4* . Mol. Pharmacol., 56:1055–1062, 1999.
- [176] Syndermann, R. und Goetzl, E.J.: *Molecular and cellular mechanisms of leukocyte chemotaxis*. Science, 213:830–837, 1981.
- [177] Syrbu, S., Waterman, W., Molski, T., Nagarkatti, D., Hajjar, J. und Shaafi, R.: *Phosphorylation on cytosolic phospholipase A_2 and the release of arachidonic acid in human neutrophils*. J. Immunol., 162:2334–2340, 1999.
- [178] Tanimura, M., Kobuchi, H., Utsumi, T., Yoshioka, T., Kataoka, S., Fujita, Y. und Utsumi, K.: *Neutrophil priming by granulocyte colony stimulating factor and its modulation by protein kinase inhibitors*. Biochem. Pharmacol., 44:1045–1052, 1992.

- [179] Tapper, H.: *The secretion of preformed granules by macrophages and neutrophils*. J. Leukoc. Biol., 59:613–622, 1996.
- [180] Tennenberg, S.D., Fey, D.E. und Lieser, M.J.: *Oxidative priming of neutrophils by interferon-gamma*. J. Leukoc. Biol., 53:301–308, 1993.
- [181] Tennenberg, S.D., Zemlan, F.P. und Solomkin, J.S.: *Characterization of N-formyl-methionyl-leucyl-phenylalanine receptors on human neutrophils. Effects of isolation and temperature on receptor expression and functional activity*. J. Immunol., 141:3937–3944, 1988.
- [182] Tithof, P., Peters-Golden, S. und Ganey, E.: *Distinct phospholipases A₂ regulate the release of arachidonic acid for eicosanoid production and superoxide anion generation in neutrophils*. J. Immunol., 160:953–960, 1998.
- [183] Tsien, R.Y., Rink, T.J. und Poenie, M.: *Measurement of cytosolic free [Ca²⁺]_i in individual small cells using fluorescence microscopy with dual excitation wavelengths*. Cell Calcium, 6:145–157, 1985.
- [184] Tyagi, S.C. und Simon, S.R.: *Interaction of neutrophil elastase with hydrophobic polyanionic chelators*. Biochem. Cell. Biol., 69:624–629, 1991.
- [185] Uhl, W., Schrag, H.J., Schmitter, N., Nevalainen, T.J., Aufenanger, J., Wheatley, A.M. und Buchler, M.W.: *Pathophysiological role of secretory type I and II phospholipase A₂ in acute pancreatitis: an experimental study in rats*. Gut., 40:386–392, 1997.
- [186] Valentin, E. und Lambeau, G.: *Increasing molecular diversity of secreted phospholipases A₂ and their receptors and binding proteins*. Biochim. Biophys. Acta, 1488:59–70, 2000.
- [187] van Pelt, L.J., Huisman, M.V., Weening, R.S., von dem Borne, A.E., Roos, D. und van Oers, R.H.: *A single dose of granulocyte-macrophage colony-stimulating factor induces systemic interleukin-8 release and neutrophil activation in healthy volunteers*. Blood, 87:5305–5313, 1996.
- [188] Ventura, C. und Maioli, M.: *Protein kinase C control of gene expression*. Crit. Rev. Eukaryot. Gene. Expr., 11:243–267, 2001.
- [189] Webb, P.R., Wang, K.Q., Scheel-Toellner, D., Pongracz, J., Salmon, M. und Lord, J.M.: *Regulation of neutrophil apoptosis: A role for protein kinase C and phosphatidylinositol-3-kinase*. Apoptosis, 5:451–458, 2000.
- [190] Weissmann, G. und Korachak, H.M.: *Release of inflammatory mediators from stimulated neutrophils*. N. Engl. J. Med., 303:27–34, 1980.
- [191] Weitzel, F. und Wendel, A.: *Selenoenzymes regulate the activity of leukocyte 5-lipoxygenase via the peroxide tone*. J. Biol. Chem., 268:6288–6292, 1993.

- [192] Worthen, G.S., Avdi, N., Buhl, A.M., Suzuki, N. und Johnson, G.L.: *fMLP activates Ras and Raf in human neutrophils. Potential role in activation of MAP kinase*. J. Clin. Invest., 94:815–823, 1994.
- [193] Worthen, S.G., Avdi, N., Buhl, Suzuki und Johnson, G.L.: *fMLP activates RAS and Raf in human neutrophils*. J. Clin. Invest., 94:815–823, 1994.
- [194] Wu, D., Huang, C.K. und Jiang, H.: *Roles of phospholipid signaling in chemoattractant-induced responses*. J. Cell Sci., 113:2935–2940, 2000.
- [195] Wynkoop, E.M., Broekman, M.J., Korchak, H.M., Marcus, A.J. und Weissmann, G.: *Phospholipid metabolism in human neutrophils activated by N-formyl-methionyl-leucyl-phenyl*. Biochem. J., 236:829–837, 1986.
- [196] Zhang, H., Wendel, B., van Wyk, V. und Nigam, S.: *Identification and molecular characterization of the Cal B domain of the cytosolic phospholipase A₂ in human neutrophils*. In: Nigam, S., Kunkel, G. und Prescott, S.M. (Herausgeber): *PAF and Related Lipid Mediators in Health & Disease*, 305–308. Plenum Press, New York, 1996.
- [197] Zhang, L., Gay, J.C., English, D. und Andersen, B.R.: *Neutrophil Priming Mechanisms of Sulfolipid-I and N-Formyl-Methionyl-Leucyl-Phenylalanine*. J. Biomed. Sci., 1:253–262, 1994.
- [198] Zuikhin, D.P. und Mansurov, R.M.: *Use of formidron for the treatment and prevention of foot mycoses and perspiration*. Voen. Med. Zh., 76, 1975.