

7 BIBLIOGRAPHY

Ahern, H. (1995) Technology makes DNA isolation, purification simple and swift. *Scientist*, 9(10), 17.

Alam, M.R., Maeda, M. and Sasaki, S. (2000) DNA-binding peptides searched from the solid-phase combinatorial library with the use of the magnetic beads attaching the target duplex DNA. *Bioorg. Med. Chem.*, 8(2), 465-473.

Albig, A. (2001) Isolation of mRNA binding proteins using the μ MACS streptavidin kit. *MACS & more*, 5(1), 6-7.

Alexiou, C., Jurgons, R., Schmid, R.J., Bergemann, C., Henke, J., Erhardt, W., Huenges, E. and Parak, F. (2003) Magnetic drug targeting – biodistribution of the magnetic carrier and the chemotherapeutic agent mitoxantrone after locoregional cancer treatment. *J. Drug Targeting*, 11, 139-149.

Alexiou, C., Schmid, R.J., Jurgons, R., Kremer, M., Wanner, G., Bergemann, C., Huenges, E., Nawroth, T., Arnold, W. and Parak, F.G. (2006) Targeting cancer cells: magnetic nanoparticles as drug carriers. *Eur. Biophysics J.*, 35, 446-450.

Babincova, M. (1999) Targeted and controlled release of drug using magnetoliposomes. *Ceska Slov. Farm.*, 48, 27-29.

Babincova, M. and Machova, E. (1998). Magnetoliposomes may be useful for elimination of HIV from infected individuals. *Z Naturforsch*, 53, 935-936.

Babincova, M., Altanerova, V., Lampert, M., Altaner, C., Machova, E., Sramka, M. and Babinec, P. (2000) Site-specific in vivo targeting of magnetoliposomes using externally applied magnetic field. *Z Naturforsch (C)*, 55, 278-281.

- Babincova, M., Cicmanec, P., Altanerova, V., Altaner, C. and Babinec, P. (2002) AC-magnetic field controlled drug release from magnetoliposomes: design of a method for site-specific chemotherapy. *Bioelectrochemistry*, 55(1-2), 17-9.
- Bacri, J.C., Perzynski, R., Salin, D., Cabuil, V. and Massart, R. (1990) Ionic ferrofluids: a crossing of chemistry and physics. *J. Magn. Magn. Mater.*, 85, 27-32.
- Bahar, T. and Celebi, S.S. (1999) Immobilization of glucoamylase on magnetic poly(styrene) particles. *J. Appl. Polym. Sci.*, 72, 69-73.
- Bally, M. B., Masin, D., Nayar, R., Cullis, P. R. and Mayer, L. D. (1994) Transfer of liposomal drug carriers from the blood to the peritoneal cavity of normal and ascitic tumour-bearing mice. *Cancer Chemother. Pharmacol.*, 34, 137-146.
- Bauer, L.A., Birenbaum, N.S. and Meyer, G.J. (2004) Biological application of high aspect ratio nanoparticles. *J. Mater. Chem.*, 14, 517-26.
- Bergamasco, R., Bassetti, F.J., Moraes, F.F. and Zanin, G.M. (2000) Characterization of free and immobilized invertase regarding activity and energy of activation. *Braz. J. Chem. Eng.*, 17, 4-7.
- Bilkenroth, U., Taubert, H., Riemann, D., Rebmann, U., Heynemann, H. and Meye, A. (2001) Detection and enrichment of disseminated renal carcinoma cells from peripheral blood by immunomagnetic cell separation. *Int. J. Cancer*, 92(4), 577-82.
- Blakemore, R. (1975) Magnetotactic bacteria. *Science*, 190, 377.
- Blakemore, R.P. and Frankel, R.B. (1981) Magnetic navigation in bacteria. *Sci. Am.*, 245, 58-65.

- Bonte, F. and Juliano, R.L. (1986) Interactions of liposomes with serum proteins. *Chem. Phys. Lipids*, 40, 359-372.
- Bradford, M.M. (1976) A rapid and sensitive method for the quantitation of microgram quantities of protein utilizing the principle of protein-dye binding. *Anal. Biochem.*, 72, 248-256.
- Bruce, I.J., Taylor, J., Todd, M., Davies, M.J., Borioni, E., Sangregorio, C. and Tapas, S. (2004) Synthesis, characterisation and application of silica-magnetite nanocomposites. *J. Magn. Magn. Mater.*, 284, 145-160.
- Brusentsov, N.A., Gogosov, V.V., Brusentsova, T.N., Sergeev, A.V., Jurchenko, N.Y., Kuznetsov, A.A., Kuznetsov, O.A. and Shumakov, L.I. (2001). Evaluation of ferromagnetic fluids and suspensions for the site-specific radiofrequency-induced hyperthermia of MX11 sarcoma cells in vitro. *J. Magn. Magn. Mater.*, 225, 113-117.
- Bulte, J.W., Cuyper, M.D., Despres, D. and Frank, J.A. (1999) Short- vs. long-circulating magnetoliposomes as bone marrow-seeking MR contrast agents. *J. Magn. Reson. Imaging*, 9(2), 329-335.
- Chan, W.C., Maxwell, D.J., Gao, X., Bailey, R.E., Han, M. and Nie, S. (2002) Luminescent quantum dots for multiplexed biological detection and imaging. *Curr. Opin. Biotechnol.*, 13, 40-46.
- Chaplin, M.F. and Kennedy, J.F. (1976) Magnetic immobilized derivatives of enzymes. *Carbohydr. Res.*, 50, 267-274.
- Chen, C.S. and Durst, R.A. (2006) Simultaneous detection of Escherichia coli O157:H7, Salmonella spp. and Listeria monocytogenes with an array-based immunosorbent assay using universal protein G-liposomal nanovesicles. *Talanta*, 69, 232-238.

- Chiang, C.L., Sung, C.S., Wu, T.F., Chen, C.Y. and Hsu, C.Y. (2005) Application of superparamagnetic nanoparticles in purification of plasmid DNA from bacterial cells. *J. Chromatogr. B Analyt. Technol. Biomed. Life Sci.*, 822, 54-60.
- Chirgwin, J.M., Przybyla, A.E., MacDonald, R.J. and Rutter, W.J. (1979) Isolation of biologically active ribonucleic acid from sources enriched in ribonuclease. *Biochemistry*, 18(24), 5294-5299.
- Chomczynski, P. and Sacchi, N. (1987) Single step method of RNA isolation by guanidium thiocyanate-phenol chloroform extraction. *Anal Biochem.*, 162(1), 156-159.
- Corona-Barrera, E., Smith, D., La, T., Hampson, D.J. and Thomson, J.R. (2004) Immunomagnetic separation of the intestinal spirochaetes *Brachyspira pilosicoli* and *Brachyspira hyodysenteriae* from porcine faeces. *J. Med. Microbiol.*, 53, 301-307.
- Cotter, M.J., Norman, K.E., Hellewell, P.G. and Ridger, V.C. (2001) A novel method for isolation of neutrophils from murine blood using negative immunomagnetic separation. *Am. J. Pathology*, 159, 473-81.
- D'souza, S. (1999) Immobilized enzymes in bioprocess. *Curr. Sci.*, 77: 69-79.
- Davies, M.J., Smethurst, D.E., Howard, K., Todd, M., Higgins, L.M. and Bruce, I.J. (1997) Improved manufacture and application of an agarose magnetizable solid-phase support. *Appl. Biochem. Biotechnol.*, 68, 95-112.
- Davies, M.J., Taylor, J.I., Sachsinger, N. and Bruce, I.J. (1998) Isolation of plasmid DNA using magnetite as a solid phase adsorbent. *Anal. Biochem.*, 262, 92-94.

de Cuyper, M and Noppe, W. (1996) Extractibility of phospholipid envelope of magnetoliposomes by organic solvents. *J. Colloid Interface Sci.* 182, 478-482.

de Cuyper, M. and Joniau, M. (1988) Magnetoliposomes: formation and structural characterization. *Eur. Biophys. J.*, 15(5), 311-319.

de Cuyper, M. and Joniau, M. (1990). Potentialities of magnetoliposomes in studying symmetric and asymmetric phospholipids transfer processes. *Biochim. Biophys. Acta*, 1027, 172-178.

de Cuyper, M. and Joniau, M. (1992) Binding characteristics and thermal behaviour of cytochrome-C oxidase, inserted into phospholipids coated, magnetic nanoparticles. *Biotechnol. Appl. Biochem.* 16, 201-210.

DeCory, T.R., Durst, R.A., Zimmerman, S.J., Garringer, L.A., Paluca, G., DeCory, H.H. and Montagna, R.A. (2005) Development of an immunomagnetic bead-immunoliposome fluorescence assay for rapid detection of *Escherichia coli* O157:H7 in aqueous samples and comparison of the assay with a standard microbiological method. *Appl. Environ. Microbiol.* 71, 1856-1864.

Deggerdal, A. and Larsen, F. (1997) Rapid isolation of PCR-ready DNA from blood, bone marrow and cultured cells, based on paramagnetic beads. *BioTechniques*, 22, 554-557

Devereux, R.B., Drayer, J.I., Chien, S., Pickering, T.G., Letcher, R.L., DeYoung, J.L., Sealey, J.E. and Laragh, J.H. (1984) Whole blood viscosity as a determinant of cardiac hypertrophy in systemic hypertension. *Am. J. Cardiol.* 54, 592-595.

Domingo, J.C., Mercadal, M., Petriz, J. and De Madariaga, M.A. (2001) Preparation of PEG-grafted immunomagnetoliposomes entrapping citrate

stabilized magnetite particles and their application in CD34+ cell sorting. *J. Microencapsul.*,18, 41-54.

Droog, S., Lakenberg, N., Meulenbelt, I., De Maat, M.P.M., Huisman, L.G.M., Jie, A.F.H. and Slagboom, P.E.(1996) Isolation and storage of DNA for population studies. *Fibrinolysis*, 10,29-30.

Favrin, S.J., Jassim, S.A. and Griffiths, M.W. (2001) Development and optimization of a novel immunomagnetic separation-bacteriophage assay for detection of *Salmonella enterica* serovar enteritidis. *Appl. Environ. Microbiol.*, 67, 217-224.

Finlay, D., Bell, C. and Ball, H.J. (2006) Comparison of a monoclonal antibody-based capture/enrichment sandwich enzyme linked immunosorbent assay with immunomagnetic bead separation for the detection of attachment effacement *Escherichia coli* O26 strains from cattle faeces. *J. Appl. Microbiol.*, 100, 1141-1146.

Fiske, C.H. and Subbarow, Y. (1925) The colorimetric determination of phosphorus. *J. of Biol. Chem.*,66, 375-400.

Fortin-Ripoche, J.P., Martina, M.S., Gazeau, F., Menager, C., Wilhelm, C., Bacri, J.C., Lesieur, S. and Clement, O. (2006) Magnetic targeting of magnetoliposomes to solid tumors with MR imaging monitoring in mice: feasibility. *Radiology*, 239, 415-24.

Frankel, R.B. and Bazylinski, D.A. (1994) Magnetotaxis and magnetic particles in bacteria. *Hyperfine Interactions*, 90, 135-142.

Fricker, J. (2001) Drugs with a magnetic attraction to tumours. *Drug Discov Today*, 6(8), 387-89.

Gabizon, A., Shiota, R. and Papahadjopoulos, D.(1989) Pharmacokinetics and tissue distribution of doxorubicin encapsulated in stable liposomes with long circulation times. *J Natl Cancer Inst.*,81,1484-1488

Gijs, M.A.M. (2004) Magnetic bead handling on-chip: new opportunities for analytical applications. *Microfluid Nanofluid*,1: 22-40.

Goldman, R., Kadam, O., Silman, I.H., Caplan, S.R. and Katchalski, E. (1968). Papain-colloidion membranes. I. Preparations and properties. *Biochemistry*,7, 486-500.

Gonzales, M. and Krishnan, K.M. (2005). Synthesis of magnetoliposomes with monodisperse iron oxide nanocrystal cores for hyperthermia. *J. Magn. Mater.*,293, 265-270.

Gordon, R.T., Hines, J.R. and Gordon, D. (1979) Intracellular hyperthermia: A biophysical approach to cancer treatment via intracellular temperature and biophysical alterations. *Med. Hypotheses*,5, 83-102.

Grabarek, Z. and Gergely, J. (1990) Zero-length crosslinking procedure with the use of active esters. *Anal. Biochem.*,185, 131-135.

Gupta, P.E. and Hung, C.T. (1993) Magnetically controlled targeted chemotherapy. In: N. W and T. Daly (eds.). *Microspheres and Regional Cancer Therapy*. pp. 71 – 116, Roca Paton CRC Press, Inc.

Harvey, S.C. (1983) DNA structural dynamics: longitudinal breathing as a possible mechanism for the B to Z transition. *Nucleic Acids Res.*, 11, 4867-4878.

Hawkins, T. (1998). DNA purification and isolation using magnetic particles. US Patent No. 5705628 (6 Jan 1998).

Hawkins, T.L., McKernan, K.J., Jacotot, L.B., MacKenzie, J.B., Richardson, P.M. and Lander, E.S. (1997) A magnetic attraction to high-throughput genomics. *Science*, 276, 1887-1889.

Hawkins, T.L., O'Connor-Morin, T., Roy, A. and Santillan, C. (1994) DNA purification and isolation using a solid-phase. *Nucleic Acids Res.*, 22, 4543-4544.

Hegen, P.N. (1994) Recovering DNA from agarose gels. *Trends Biochem. Sci.*, 19, 388-389.

Hofmann, H., Petri, A., Chastellain, M. and Hofmann, M. (2001) Superparamagnetic nano-particle preparation for medical application. *Eur. Cell. Mater.*, 2, 29-30.

Holmes, D.S. and Quigley, M. (1981) A rapid boiling method for the preparation of bacterial plasmids. *Anal. Biochem.*, 114, 193-197.

Horisberger, M. (1976) Immobilization of protein and polysaccharide on magnetic particles: selective binding of microorganisms by concanavalin A-magnetite. *Biotechnol. Bioeng.*, 18, 1647-1651.

Huang, S.H., Liao, M.H. and Chen, D.H. (2003) Direct binding and characterization of lipase onto magnetic nanoparticles. *Biotechnol. Prog.*, 19, 1095-1100

Ito, A., Shinkai, M., Honda, H. and Kobayashi, T. (2005) Medical application of functionalized magnetic nanoparticles. *J. Biosci. Bioeng.*, 100, 1-11.

Iwaki, M. and Nozaki, M. (1982) Immobilization of metapyrocatechase and its properties in comparison with the soluble enzyme. *J. Biochem.*, 91, 1549-1553.

Johannsen, M., Jordan, A., Scholz, R., Koch, M., Lein, M., Deger, S., Roigas, J., Jung, K. and Loening, S. (2004) Evaluation of magnetic fluid hyperthermia in a standard rat model of prostate cancer. *J. Endourol.*, 18, 495-500.

Johannsen, M., Thiesen, B., Gneveckow, U., Taymoorian, K., Waldofner, N., Scholz, R., Deger, S., Jung, K., Loening, S.A. and Jordan, A.(2006) Thermotherapy using magnetic nanoparticles combined with external radiation in an orthotopic rat model of prostate cancer. *Prostate*, 66,97-104.

Johannsen, M., Thiesen, B., Jordan, A., Taymoorian, K., Gneveckov, U., Waldofner, N., Scholz, R., Koch, M., Lein, M., Jung, K. and Loening, S.A. (2005) Magnetic fluid hyperthermia (MFH) reduces prostate cancer growth in the orthotopic Dunning R3327 rat model. *Prostate*, 64, 283-92.

Jordan, A., Scholz, R., Wust, P., Fahling, H. and Felix, R. (1999) Magnetic fluid hyperthermia (MFH): Cancer treatment with AC magnetic field induced excitation of biocompatible superparamagnetic nanoparticles. *J. Magn. Magn. Mater.*,201, 413-18.

Jordan, A., Scholz, R., Maier-Hauff, K., Johannsen, M., Wust, P., Nadobny, J., Schirra, H., Schmidt, H., Deger, S., Loening, S., Lanksch, W. and Felix, R. (2001) Presentation of a new magnetic field therapy system for the treatment of human solid tumors with magnetic fluid hyperthermia. *J. Magn. Magn. Mater.*,225, 118-126.

Jordan, A., Scholz, R., Maier-Hauff, K., van Landeghem, F.K.H., Waldoefner, N., Teichgraeber, U., Pinkernelle, J., Bruhn, H., Neumann, F., Thiesen, B., von Deimling, A. and Felix, R. (2006) The effect of thermotherapy using magnetic nanoparticles on rat malignant glioma. *J. Neuro-Oncol.*, 78, 7-14.

Jordan, A., Scholz, R., Wust, P., Fahling, H., Krause, J., Wlodarczyk, W., Sander, B., Vogl, T. and Felix, R. (1997) Effects of magnetic fluid

hyperthermia (MFH) on C3H mammary carcinoma in vivo. *Int. J. Hyperthermia*, 13(6), 587-605.

Kato, K. and Radbruch, A. (1993) Isolation and characterization of CD34+ hematopoietic stem cells from human peripheral blood by high-gradient magnetic cell sorting. *Cytometry*, 14, 384-92.

Kim, D.K., Toprak, M., Mikhailova, M., Zhang, Y., Bjelke, B., Kehr, J. and Muhammed, M. (2002) Surface modification of superparamagnetic nanoparticles for in-vivo bio-medical applications. *Mat. Res. Soc. Symp. Proc.*, vol. 704.

Koneracka, M., Kopcansky, P., Antalík, M., Timko, M., Ramchand, C.N., Lobo, D., Mehta, R.V. and Upadhyay, R.V. (1999) Immobilization of proteins and enzymes to fine magnetic particles. *J. Magn. Magn. Mater.*, 201, 427-430.

Koneracka, M., Kopcansky, P., Timko, M., Ramchand, C.N., de Sequeira, A. and Trevan, M. (2002) Direct binding procedure of proteins and enzymes to fine magnetic particles. *J. Mol. Catal. B – Enzym.*, 689, 1-6.

Kouassi, G.K., Irudayaraj, J., McCarty, G. (2005a) Activity of glucose oxidase functionalized onto magnetic nanoparticles, *Biomagn. Res. Technol.*, 3, e1.

Kouassi, G.K., Irudayaraj, J., McCarty, G. (2005b) Examination of cholesterol oxidase attachment to magnetic nanoparticles, *J. Nanobiotechnology*, 3, e1.

Kubo, T., Sugita, T., Shimose, S., Nitta, Y., Ikuta, Y. and Murakami, T. (2000) Targeted delivery of anticancer drugs with intravenously administered magnetic liposomes in osteosarcoma-bearing hamsters. *Int. J. Oncol.*, 17(2), 309-15.

- Kubo, T., Sugita, T., Shimose, S., Nitta, Y., Ikuta, Y. and Murakami, T. (2001) Targeted systemic chemotherapy using magnetic liposomes with incorporated adriamycin for osteosarcoma in hamsters. *Int. J. Oncol.*, 18(1), 121-125.
- Kullberg, M., Mann, K. and Owens, J.L. (2005) Improved drug delivery to cancer cells: A method using magnetoliposomes that target epidermal growth factor receptors. *Med. Hypotheses*, 64, 468-470.
- Le, B., Shinkai, M., Kitade, T., Honda, H., Yoshida, J., Wakabayashi, T. and Kobayashi, T. (2001) Preparation of tumor-specific magnetoliposomes and their application for hyperthermia. *J. Chem. Eng. Jpn.*, 34, 66-72.
- Li, Q. and Ownby, C.L. (1993). A rapid method for extraction of DNA from agarose gels using a syringe. *BioTechniques*, 15, 976-978.
- Liao, M.H. and Chen, D.H. (2002) Preparation and characterization of a novel magnetic nano-adsorbent. *J. Mater. Chem.*, 12, 3654-3659.
- Liu, G., Han, Y., Li, X. and Song, S. (2006) Applicability of a rapid method based on immunomagnetic capture-fluorescent PCR assay for *Campylobacter jejuni*. *Food Control*, 17, 527-532.
- Lowenstam, H.A. (1962) Magnetite in denticle capping in recent chitons (Polyplacophora). *Bull. Geol. Soc. Am.*, 73, 435.
- Lu, Q.H., Yao, K.L., Xi, D., Liu, Z.L., Luo, X.P. and Ning Q. (2006) Synthesis and characterization of composite nanoparticles comprised of gold shell and magnetic core/cores. *J. Magn. Magn. Mater.*, 301, 44-49.
- Lubbe, A.S., Alexiou, C. and Bergemann, C. (2001) Clinical application of magnetic drug targeting. *J. Surg. Res.*, 95, 200-206.

- Luciani, A., Olivier, J.C. *et al.* (2004) Glucose receptor MR imaging of tumors, study in mice with PEGylated paramagnetic niosomes. *Radiology*, 231, 735-742.
- Luxembourg, A.T., Borrow, P., Teyton, L., Brunmark, A.B., Peterson, P.A. and Jackson, M.R. (1998) Biomagnetic isolation of antigen-specific CD8+ T cells usable in immunotherapy. *Nat. Biotechnol.*, 16(3), 281-285.
- Margolis, L.B., Namiot, V.A. and Kliukin, L.M. (1983b). Cell sorting using magnetoliposomes. *Biofizika*, 28, 884-885.
- Margolis, L.B., Namiot, V.A. and Kljukin, L.M. (1983a) Magnetoliposomes: another principle of cell sorting. *Biochim. Biophys. Acta*, 735, 193-195.
- Massart, R., Dubois, E., Cabuil, V. and Hasmonay, E. (1995) Preparation and properties of monodisperse magnetic fluids. *J. Magn. Magn. Mater.*, 149, 1-5.
- Masuko, Y., Tazawa, K., Viroonchatapan, E., Takemori, S., Shimizu, T, Fujimaki, M., Nagae, H., Sato, H. and Horikoshi, I. (1995). Possibility of thermosensitive magnetoliposomes as a new agent for electromagnetic induced hyperthermia. *Biol. Pharm. Bull.*, 18, 1802-1804
- Matsuda, K., Sumida, M., Fujita, K. and Mitsuzawa, S. (1987) The control of the particles of magnetite. *Bull. Chem. Soc. Jpn.*, 60, 4441-4442.
- Matsunaga, T. and Sakaguchi, T. (2000) Molecular mechanism of magnet formation in bacteria. *J. Biosci. Bioeng.*, 90, 1.
- Matsunaga, T. and Takeyama, H. (1998) Biomagnetic nanoparticles formation and application. *Supramol. Sci.*, 5, 391-394.
- Matsunaga, T., Higashi, Y. and Tsujimura, N. (1997) Drug delivery by magnetoliposomes containing bacterial magnetic particles. *Cell. Eng.*, 2, 7-11.

- Matsunaga, T., Kawasaki, M., Yu, X., Tsujimura, N. and Nakamura, N. (1996) Chemiluminescence enzyme immunoassay using bacterial magnetic particles. *Anal. Chem.*, 68(20), 3551-3554.
- Matsunami, K., Nakamura, T., Oguma, H., Kitamura, Y. and Takasaki, K. (2003) Detection of bone marrow micrometastasis in gastric cancer patients by immunomagnetic separation. *Annals of Surgical Oncol.*, 10, 171-175.
- Mayer, L.D., Bally, M.B. and Cullis, P.R. (1986). Uptake of adriamycin into large unilamellar vesicles in response to a pH gradient. *Biochim. Biophys. Acta*, 857, 123-136.
- Mayer, L.D., Dougherty, G., Harasym, T.O. and Bally, M.B. (1997) The role of tumor-associated macrophages in the delivery of liposomal doxorubicin to solid murine fibrosarcoma tumors. *J. Pharmacol. Exp. Ther.*, 280, 1406-1414.
- Mayer, L.D., Tai, L.C.L., Bally, M.B., Mitilenes, G.N., Ginsberg, R.S. and Cullis, P.R. (1990) Characterization of liposomal system containing doxorubicin entrapped in response to pH gradients. *Biochim. Biophys. Acta*, 1025, 143-151.
- Mehta, R.V., Upadhyay, R.V., Charles, S.W. and Ramchand, C.N. (1997) Direct binding of protein to magnetic particles. *Biotechnol. Tech.*, 11, 493-496.
- Mohapatra, T., Sharma, R.P. and Chopra, V.L. (1992) Cloning and use of low copy sequence genomic DNA for RFLP analysis of somaclones in mustard. *Curr. Sci.*, 62, 482-484.
- Mojsin, M., Djurovic, J., Petrovic, I., Krstic, A., Drakulic, D., Savic, T. and Stevanovic, M. (2006) Rapid detection and purification of sequence specific DNA binding proteins using magnetic separation. *J. Serbian Chemical Soc.*, 71, 135-141.

- Mornet, S., Portier, J. and Duguet, E. (2004) A method for synthesis and functionalization of ultrasmall superparamagnetic covalent carriers based on maghemite and dextran. *J. Magn. Magn. Mater.* 293, 127-134.
- Mosbach, K. and Andersson, L. (1977) Magnetic ferrofluid for preparation of magnetic polymers and their application in affinity chromatography. *Nature*, 270, 259-261.
- Mrazek, F. and Petrek, M. (1999) Processing of mRNA from human leukocytes by biomagnetical separation: comparison with current methods of RNA isolation. *Acta Univ. Palacki Olomouc Fac. Med.* 42, 23-28.
- Munro, P.A., Dunnill, P. and Lilly, M.D. (1977) Nonporous magnetic materials as enzyme supports: studies with immobilized chymotrypsin. *Biotechnol. Bioeng.* 19, 101-124.
- Nagy, M., Otremba, P., Kruger, C., Bergner-Greiner, S., Anders, P., Henske, B., Prinz, M. and Roewer, L. (2005) Optimization and validation of a fully automated silica-coated magnetic beads purification technology in forensics. *Forensic Sci. Int.*, 152, 13-22.
- Nakamura, N., Burgess, J.G., Yagiuda, K., Kudo, S., Sakaguchi, T. and Matsunaga, T. (1993) Detection and removal of *Escherichia coli* using fluorescein isothiocyanate conjugated monoclonal antibody immobilized on bacterial magnetic particles. *Anal. Chem.* 65(15), 2036-2039.
- Nellen, W., Datta, S., Reymond, S., Sivertsen, A., Mann, S., Crowley, T. and Firtel, R.A. (1987) Molecular Biology in Dictyostelium: tools and applications. *Methods Cell Bio.* 28, 67-100.
- Nelson, J.M. and Griffin, E.G. (1916) Adsorption of invertase. *J. Am. Chem. Soc.*, 38, 1109-1115.

- Packer, L., Tristram, S., Herz, J.M., Russell, C. and Borders, L.C.(1979) Chemical modification of purple membranes: role of arginine and carboxylic acid residues in bacteriorhodopsin. *FEBS Lett.*,108 , 243-248.
- Pankhurst, Q.A., Connolly, J., Jones, S.K. and Dobson, J. (2003) Applications of magnetic nanoparticles in biomedicine. *J Phys D–Appl Phys*,36(13),R167–R181.
- Pichl, L., Heitmann, A., Herzog, P., Oster, J., Smets, H. and Schottstedt, V. (2005) Magnetic bead technology in viral RNA and DNA extraction from plasma minipools. *Transfusion*, 45, 1106-1110.
- Pospiech. A. and Neumann, B. (1995) A versatile quick preparation of genomic DNA from gram positive bacteria. *Trends Genet.*,11, 217-218.
- Prodelalova, J., Rittich, B., Spanova, A., Petrova, K. and Benes, M.J. (2004) Isolation of genomic DNA using magnetic cobalt ferrite and silica particles. *J. Chromatogr. A*,1056, 43-48.
- Pryor, J. N. and Crump, L.L. (2001) Silica adsorbent on magnetic substrate. US Patent no. 2001/0007713 A1.
- Ramachandran, N. and Mazuruk, K. (2004) Magnetic microspheres and tissue model studies for therapeutic applications. *Ann. N.Y. Acad. Sci.*, 1027, 99-109.
- Ramchand, C.N., Priyadarshini, P., Kopcansky, P. and Mehta, R.V. (2001) Application of magnetic fluids in medicine and biotechnology. *Indian J. Pure Appl. Phys.*, 39, 683-686.
- Ramsay, W.N.M. (1957). The determination of iron in blood plasma or serum. *Clin. Chim. Acta*, 2, 214-220.

Robinson, P.J., Dunnill, P. and Lilly, M.D. (1973) The properties of magnetic supports in relation to immobilized enzyme reactors. *Biotechnol. Bioeng.*,15, 603-606.

Rudi, K., Kroken, M., Dahlberg, O.J. Deggerdal, A., Jakobsen, K.S. and Larsen, F. (1997) Rapid, universal method to isolate PCR-ready DNA using magnetic beads. *BioTechniques*, 22, 506-511.

Rusetski, A.N. and Ruuge, E.K. (1990) Magnetic fluid as a possible drug carrier for thrombosis treatment. *J. Magn. Magn. Mater.*,85, 299-298.

Safarik, I. and Safarikova, M. (1997) Overview of magnetic separations used for biochemical and biotechnological applications. In *Scientific and Clinical Applications of Magnetic Carriers* Edited by: Hafeli U, Schutt W, Teller J, Zborowski M. New York: Plenum Press; p 323-340.

Safarik, I. and Safarikova, M. (1999) Use of magnetic techniques for the isolation of cells. *J. Chromatogr. B Biomed. Sci. Appl.*, 722, 33-53.

Safarik, I. and Safarikova, M. (2000a) Biologically active compounds and xenobiotics: magnetic affinity separations. In *Encyclopedia of Separation Science* Edited by: Wilson ID, Adlard TR, Poole CF, Cool M. London: Academic Press; page no. 2163-2170.

Safarik, I. and Safarikova, M. (2000b) Cells isolation: magnetic techniques. In *Encyclopedia of Separation Science* Edited by: Wilson ID, Adlard TR, Poole CF, Cool M. London: Academic Press; p 2260-2267.

Safarik, I. and Safarikova, M. (2002) Magnetic nanoparticles and biosciences. *Mon. Chem.*, 133, 737-759.

Safarik, I. and Safarikova, M. (2004) Magnetic techniques for the isolation and purification of proteins and peptides. *Biomagn. Res. Technol.*,2, 7.

Safarik, I., Safarikova, M. and Forsythe, S.J. (1995) The application of magnetic separations in applied microbiology. *J. Appl. Bacteriol.*, 78, 575-585.

Safarikova, M. and Safarik, I. (2001) The application of magnetic techniques in biosciences. *Magn. Electr. Sep.*, 10, 223-252.

Saiyed, Z., Telang, S. and Ramchand, C. (2003). Application of magnetic techniques in the field of drug discovery and biomedicine. *Biomagn Res Technol.*, 1, 2.

Sambrook, J. and Russell, D.W. (2001) *Molecular Cloning: A Laboratory Manual*, 3rd ed. Cold Spring Harbor Laboratory Press, Cold Spring Harbor, NY.

Sambrook, J., Fritsch, E.F. and Maniatis, T. (1989) *Molecular Cloning: A Laboratory Manual*, 2nd ed. Cold Spring Harbor Laboratory Press, Cold Spring Harbor, NY.

Sangregorio, C., Wiemann, J.K. O'Connor, C.J. and Rosenweig, Z. (1999) A new method for the synthesis of magnetoliposomes. *J. Appl. Phys.*, 85, 5699-5701.

Schuler, D. and Frankel, R.B. (1999) Bacterial magnetosomes: microbiology, biomineralization and biotechnology applications. *Appl. Microbiol. Biotech.*, 52, 464-473.

Schutt, W., Gruttner, C., Teller, J., Westphal, F., Hafeli, U., Paulke, B., Goetz, P. and Finck, W. (1999) Biocompatible magnetic polymer carriers for in vivo radionuclide delivery. *Artif. Organs*, 23, 98-103.

Segel, I.H. (2004) *Enzymes, Biochemical Calculations*, 2nd Ed. p. 208-323.



Semple, S.C., Chonn, A. and Cullis, P.R. (1996) Interactions of liposome and lipid-based carrier systems with blood proteins: relation to clearance behaviour *in vivo*. *Adv. Drug Delivery Rev*, 32, 3-17.

Sharma, A.K. and Sharma, A. (1980) Chromosome Techniques: Theory and Practices, 3rd ed, Butterworths publishers, Fakenham, Norfolk.

Sharma, R., Mahla, H.R., Mohapatra, T., Bhargava, S.C. and Sharma, M.M. (2003) Isolating plant genomic DNA without liquid nitrogen. *Plant Mol. Bio. Reporter*, 21, 43-50.

Shinkai, M., Le, B., Honda, H., Yoshikawa, K., Shimizu, K., Saga, S., Wakabayashi, T., Yoshida, J. and Kobayashi, T. (2001). Targeting hyperthermia for renal cell carcinoma using human MN antigen specific magnetoliposomes. *Jpn. J. Cancer Res.*, 92, 1138-1145.

Shinkai, M., Suzuki, M., Iijima, S. and Kobayashi, T. (1995) Antibody-conjugated magnetoliposomes for targeting cancer cells and their application in hyperthermia. *Biotechnol. Appl. Biochem.*, 21, 125-137.

Shoge, K., Mishima, H.K., Mukai, S., Shinya, M., Ishihara, K., Kanno, M. and Sasa, M. (1999) Rat retinal ganglion cell culture enriched with the magnetic cell sorter. *Neurosci. Lett.*, 259(2), 111-114.

Silman, I.H. and Katchalski, E. (1966) Water insoluble derivatives of enzymes, antigens and antibodies. *Ann. Rev. Biochem.*, 35, 837-877.

Simons, B.L., King, M.C., Cyr, T., Hefford, M.A. and Kaplan, H. (2002). Covalent crosslinking of proteins without chemical reagents. *Protein Sci.*, 11, 1558-1564.

Sinclair, B. (1998) To bead or not to bead: applications of magnetic bead technology. *Scientist*, 12(13), 17.

Sinclair, B. (2000) Honing your cloning: new cloning systems give protein expression studies a boost. *Scientist*, 14(16), 29.

Spanova, A., Rittich, B., Benes, M.J. and Horak, D. (2005) Ferrite supports for isolation of DNA from complex samples and polymerase chain reaction amplification. *J. Chromatogr. A*, 1080, 93-98.

Stark, M.B. and Holmberg, K. (1989) Covalent immobilization of lipase in organic solvents. *Biotechnol. Bioeng.*, 34, 942-950.

Sugimoto, T. and Matijevic, E. (1980) Formation of uniform spherical magnetite particles of crystallization from ferrous hydroxide gels. *J. Colloid Interface Sci.*, 74, 227-243.

Taylor, J.I., Hurst, C.D., Davies, M.J., Sachsinger, N. and Bruce, I.J. (2000) Application of magnetite and silica-magnetite composites to the isolation of genomic DNA, *J. Chromatogr. A*, 890, 159-166.

Temesvari, L., Rodriguez-Paris, J., Bush, J., Steck, T.L. and Cardelli, J. (1994) Characterization of lysosomal membrane proteins of *Dictyostelium discoideum*: a complex population of acidic integral membrane glycoproteins, Rab GTP-binding proteins and vacuolar ATPase subunits. *J. Biol. Chem.*, 269, 25719-25727.

Timko, M., Koneracka, M., Tomasovicova, N., Kopcansky, P. and Zavisova, V. (2006) Magnetite polymer nanospheres loaded by indomethacin for anti-inflammatory therapy. *J. Magn. Magn. Mater.*, 300, e191-e194.

Tsoumakidou, M., Tzanakis, N., Papadaki, H.A., Koutala, H. and Siafakas, N.M (2006) Isolation of myeloid and plasmacytoid dendritic cells from human bronchoalveolar lavage fluid. *Immunol. Cell. Biol.*, 84, 267-273.

- Vandamme, E.J. (1983) Peptide antibiotic production through immobilized biocatalyst technology. *Enzyme. Microb. Technol.* 5, 403-415.
- Viroonchatapan, E., Sato, H., Ueno, M., Adachi, I., Murata, J., Saiki, I., Tazawa, K. and Horikoshi, I. (1998). Microdialysis assessment of 5-fluorouracil release from thermosensitive magnetoliposomes induced by an electromagnetic field in tumor-bearing mice. *J. Drug Target* 5, 379-390.
- Viroonchatapan, E., Sato, H., Ueno, M., Adachi, I., Tazawa, K. and Horikoshi, I. (1996). Magnetic targeting of thermosensitive magnetoliposomes to mouse livers in an in situ on-line perfusion system. *Life Sci.* 58, 2251-2261.
- Vogelstein, B. and Gillespie, D. (1979) Preparative and analytical purification of DNA from agarose. *Proc. Natl. Acad. Sci USA.* 76, 615-619.
- Walter, K. and Schutt, C. (1974). Acid and alkaline phosphatase in serum, p. 856-860. In H.V. Bermeger (Ed.), *Methods of Enzymatic Analysis*. Academic Press, New York.
- Wang, B., Merva, M., Williams, W. and Weiner, D. (1995) Large-scale preparation of plasmid DNA by microwave lysis. *Biotechniques*, 18, 554-555.
- Wehtje, E., Adlercreutz, P. and Mattiason, B. (2004) Improved activity retention of enzymes deposited on solid supports. *Biotechnol. Bioeng.* 41, 171-178.
- Widder, E.F., Morris, R.M., Poore, G.A., Howards, D.P. and Senyei, A.E. (1983) Selective targeting of magnetic albumin microspheres containing-dose doxorubicin: total remission in Yoshida sarcoma-bearing rats. *Eur. J. Cancer Clin. Oncol.* 19, 135-139.

- Wu, C.W., Lee, J.G. and Lee, W.C. (1998) Protein and enzyme immobilization on non-porous microspheres of polystyrene. *Biotechnol. Appl. Biochem.*, 27, 225-230.
- Xie, X., Zhang, X., Zhang, H., Chen, D. and Fei, W. (2004) Preparation and application of surface-coated superparamagnetic nanobeads in the isolation of genomic DNA. *J. Magn. Magn. Mater.*, 277, 16-23.
- Yamada, O., Oshimi, K., Motoji, T. and Mizoguchi, H. (1995) Telomeric DNA in normal and leukemic blood cells. *J. Clin. Invest.*, 95, 1117-1123.
- Yanase, M., Shinkai, M., Honda, H., Wakabayashi, T., Yoshida, J. and Kobayashi, T. (1998) Intracellular hyperthermia for cancer using magnetite cationic liposomes: an in vivo study. *Jpn. J. Cancer. Res.*, 89, 463-469.
- Yazdankhah, S.P., Hellenmann, A.L., Ronningen, K. and Olsen, E. (1998) Rapid and sensitive detection of *Staphylococcus* species in milk by ELISA based on monodisperse magnetic particles. *Vet. Microbiol.*, 62, 17-26.
- Zhang, Z., Zhang, L., Chen, L., Chen, L. and Wan, Q.H. (2006) Synthesis of novel porous magnetic silica microspheres as adsorbents for isolation of genomic DNA. *Biotechnol. Prog.*, 22, 514-18.
- Zhu, J.D., Kempnaers, W., Van der Straeten, D., Contreras, R. and Fiers, W. (1985) A method for fast and pure DNA elution from agarose gels by centrifugal filtration. *Bio Technology*, 3, 1014-1016.
- Zhuang, P. and Butterfield, D.A. (1992). Spin labeling and kinetic studies of a membrane immobilized proteolytic enzyme. *Biotechnol. Prog.*, 8, 204-210.
- Zimmerman, B. and Heberg, F.W. (1998) Interaction of 6XHis-tagged protein KINASE a catalytic subunit examined using Ni-NTA Magnetic Agarose Beads. *Qiagen news*, 4.

Zubriene, A., Budriene, S., Goročovceva, N., Romaskevič, T., Matulionis, E. and Dienys, G. (2003) Immobilization of hydrolases into chitosan microparticles. *Chemija (Vilnius)*, 14, 226-230.