

7. References

- Abidi, P., Zhou, Y., Jiang, J.-D. and Liu, J., Extracellular signal-regulated kinase-dependent stabilization of hepatic low-density lipoprotein receptor mRNA by herbal medicine berberine, *Arteriosclerosis, Thrombosis, and Vascular Biology*, 25, 2170-2176, 2005.
- Advani, R., Lum, B.L., Fisher, G.A., Halsey, J., Chin, D.L., Jacobs, C.D. and Sikic, B.I., A phase I trial of liposomal doxorubicin, paclitaxel and valspodar (PSC-833), an inhibitor of multidrug resistance, *Annals of Oncology*, 16, 1968-1973, 2005.
- Akhtar, N., Ahad, A., Khar, R.K., Jaggi, M., Aqil, M., Iqbal, Z., Ahmad, F.J. and Talegaonkar, S., The emerging role of P-glycoprotein inhibitors in drug delivery: a patent review, *Expert Opinion on Therapeutic Patents*, 21, 561-576, 2011.
- Ambudkar, S.V., Dey, S., Hrycyna, C.A., Ramachandra, M., Pastan, I. and Gottesman, M.M., Biochemical, cellular, and pharmacological aspects of the multidrug transporter, *Annual Review of Pharmacology and Toxicology*, 39, 361-398, 1999.
- Ambudkar, S.V., Kim, I.W. and Sauna, Z.E., The power of the pump: mechanisms of action of P-glycoprotein (ABCB1), *European Journal of Pharmaceutical Sciences*, 27, 392-400, 2006.

- Amin, K. and Dannenfelser, R.M., In vitro hemolysis: guidance for the pharmaceutical scientist, *Journal of Pharmaceutical Sciences*, 95, 1173-1176, 2006.
- Arayne, M.S., Sultana, N. and Bahadur, S.S., The berberis story: *Berberis vulgaris* in therapeutics, *Pakistan Journal of Pharmaceutical Sciences*, 20, 83-92, 2007.
- Ayrton, A. and Morgan, P., Role of transport proteins in drug absorption, distribution and excretion, *Xenobiotica*, 31, 469-497, 2001.
- Baer, M.R., George, S.L., Dodge, R.K., O'Loughlin, K.L., Minderman, H., Caligiuri, M.A., Anastasi, J., Powell, B.L., Kolitz, J.E., Schiffer, C.A., Bloomfield, C.D. and Larson, R.A., Phase 3 study of the multidrug resistance modulator PSC-833 in previously untreated patients 60 years of age and older with acute myeloid leukemia: Cancer and Leukemia Group B Study 9720, *Blood*, 100, 1224-1232, 2002.
- Bansal, T., Akhtar, N., Jaggi, M., Khar, R.K. and Talegaonkar, S., Novel formulation approaches for optimising delivery of anticancer drugs based on P-glycoprotein modulation, *Drug Discovery Today*, 14, 1067-1074, 2009 a.
- Bansal, T., Jaggi, M., Khar, R.K. and Talegaonkar, S., Emerging significance of flavonoids as P-glycoprotein inhibitors in cancer

-
- chemotherapy, *Journal of Pharmacy & Pharmaceutical Sciences*, 12, 46-78, 2009.
- Bardelmeijer, H.A., Beijnen, J.H., Brouwer, K.R., Rosing, H., Nooijen, W.J., Schellens, J.H. and van Tellingen, O., Increased oral bioavailability of paclitaxel by GF120918 in mice through selective modulation of P-glycoprotein, *Clinical Cancer Research*, 6, 4416-4421, 2000.
 - Batrakova, E.V. and Kabanov, A.V., Pluronic block copolymers: evolution of drug delivery concept from inert nanocarriers to biological response modifiers, *Journal of Controlled Release*, 130, 98-106, 2008.
 - Battu, S.K., Repka, M.A., Maddineni, S., Chittiboyina, A.G., Avery, M.A. and Majumdar, S., Physicochemical characterization of berberine chloride: a perspective in the development of a solution dosage form for oral delivery, *AAPS Pharmaceutical Science and Technology*, 11, 1466-1475, 2010.
 - Bender, E.A., Adorne, M.D., Colome, L.M., Abdalla, D.S., Guterres, S.S. and Pohlmann, A.R., Hemocompatibility of poly(ϵ -caprolactone) lipid-core nanocapsules stabilized with polysorbate 80-lecithin and uncoated or coated with chitosan, *International Journal of Pharmaceutics*, 426, 271-279, 2012.
 - Bensky, D, Gamble, A, Kapchuk, T, Chinese herbal medicine, *Materia Medica*, 3rd edition, Seattle, Eastland, 1993.

- Berg, S.L., Tolcher, A., O'Shaughnessy, J.A., Denicoff, A.M., Noone, M., Ognibene, F.P., Cowan, K.H. and Balis, F.M., Effect of R-verapamil on the pharmacokinetics of paclitaxel in women with breast cancer, *Journal of Clinical Oncology*, 13, 2039-2042, 1995.
- Bernkop-Schnürch, A. and Grabovac, V., Polymeric efflux pump inhibitors in oral drug delivery, *American Journal of Drug Delivery*, 4, 263-272, 2006.
- Bhavna, Ali, M., Baboota, S. and Ali, J., Patents on nanoparticulate drug delivery systems--a review, *Recent Patents on Drug Delivery & Formulation*, 2, 83-89, 2008.
- Bisht, S., Feldmann, G., Soni, S., Ravi, R., Karikar, C., Maitra, A. and Maitra, A., Polymeric nanoparticle-encapsulated curcumin ("nanocurcumin"): a novel strategy for human cancer therapy, *Journal of Nanobiotechnology*, 5, 3, 2007.
- Bolhuis, G.K., Zuurman, K. and te Wierik, G.H.P., Improvement of dissolution of poorly soluble drugs by solid deposition on a super disintegrant. II. The choice of super disintegrants and effect of granulation, *European Journal of Pharmaceutical Sciences*, 5, 63-69, 1997.
- Borst, P. and Schinkel, A.H., Genetic dissection of the function of mammalian P-glycoproteins, *Trends Genet*, 13, 217-222, 1997.

- Boxenbaum, H.G., Physiological and Pharmacokinetic Factors Affecting Performance of Sustained Release Dosage Forms, *Drug Development and Industrial Pharmacy*, 8, 1-25, 1982.
- Breedveld, P., Beijnen, J.H. and Schellens, J.H., Use of P-glycoprotein and BCRP inhibitors to improve oral bioavailability and CNS penetration of anticancer drugs, *Trends in Pharmacological Sciences*, 27, 17-24, 2006.
- Callies, S., de Alwis, D.P., Wright, J.G., Sandler, A., Burgess, M. and Aarons, L., A population pharmacokinetic model for doxorubicin and doxorubicinol in the presence of a novel MDR modulator, zosuquidar trihydrochloride (LY335979), *Cancer Chemotherapy and Pharmacology*, 51, 107-118, 2003.
- Carbone, C., Cupri, S., Leonardi, A., Puglisi, G. and Pignatello, R., Lipid-based nanocarriers for drug delivery and targeting: a patent survey of methods of production and characterization, *Pharmaceutical Patent Analyst*, 2, 665-677, 2013.
- Cernakova, M. and Kostalova, D., Antimicrobial activity of berberine--a constituent of *Mahonia aquifolium*, *Folia Microbiol*, 47, 375-378, 2002.
- Chakraborty, P., Dey, S., Parcha, V., Bhattacharya, S.S. and Ghosh, A., Design expert supported mathematical optimization and

predictability study of buccoadhesive pharmaceutical wafers of Loratadine, *BioMed Research International*, 2013, 197398, 2013.

- Chakraborty, S., Shukla, D., Vuddanda, P.R., Mishra, B. and Singh, S., Utilization of adsorption technique in the development of oral delivery system of lipid based nanoparticles, *Colloids and Surfaces B Biointerfaces*, 81, 563-569, 2010.
- Chavhan, S.S., Petkar, K.C. and Sawant, K.K., Nanosuspensions in drug delivery: recent advances, patent scenarios, and commercialization aspects, *Critical Reviews in Therapeutic Drug Carrier Systems*, 28, 447-488, 2011.
- Chen, W., Miao, Y.Q., Fan, D.J., Yang, S.S., Lin, X., Meng, L.K. and Tang, X., Bioavailability study of berberine and the enhancing effects of TPGS on intestinal absorption in rats, *AAPS Pharmaceutical Science and Technology*, 12, 705-711, 2011.
- Cheng, B., Luo, L.Y., Fang, D.C. and Jiang, M.X., Cardiovascular aspects of pharmacology of berberine: I. Alpha-adrenoceptor blocking action of berberine in isolated rat anococcygeus muscle and rabbit aortic strip, *Journal of Tongji Medical University*, 7, 239-241, 1987.
- Chevalier, A, *Encyclopedia of medicinal plants*, Revised Edition, Sydney (AUS), Dorling Kindersley, 2001.

- Chiou, W.F., Yen, M.H. and Chen, C.F., Mechanism of vasodilatory effect of berberine in rat mesenteric artery, *European Journal of Pharmacology*, 204, 35-40, 1991.
- Chiou, W.L., Chung, S.M., Wu, T.C. and Ma, C., A comprehensive account on the role of efflux transporters in the gastrointestinal absorption of 13 commonly used substrate drugs in humans, *International Journal of Clinical Pharmacology and Therapeutics*, 39, 93-101, 2001.
- Cicero, A.F., Rovati, L.C. and Setnikar, I., Eulipidemic effects of berberine administered alone or in combination with other natural cholesterol-lowering agents. A single-blind clinical investigation, *Arzneimittelforschung*, 57, 26-30, 2007.
- Cornaire, G., Woodley, J., Hermann, P., Cloarec, A., Arellano, C. and Houin, G., Impact of excipients on the absorption of P-glycoprotein substrates in vitro and in vivo, *International Journal of Pharmaceutics*, 278, 119-131, 2004.
- Costa, P. and Sousa Lobo, J.M., Modeling and comparison of dissolution profiles, *European Journal of Pharmaceutical Sciences*, 13, 123-133, 2001.
- Couvreur, P, Grislain, L, Lenaert, V, Brasseur, F, Guiot, P, editors., *Polymeric Nanoparticles and Microspheres*, Boca Raton, CRC Press, 27-33, 1986.

- Dantzig, A.H., Shepard, R.L., Cao, J., Law, K.L., Ehlhardt, W.J., Baughman, T.M., Bumol, T.F. and Starling, J.J., Reversal of P-glycoprotein-mediated multidrug resistance by a potent cyclopropyldibenzosuberane modulator, LY335979, *Cancer Research*, 56, 4171-4179, 1996.
- Dash, T.K. and Konkimalla, V.B., Poly-small je, Ukrainian-caprolactone based formulations for drug delivery and tissue engineering: A review, *Journal of Controlled Release*, 158, 15-33, 2012.
- Di, L. and Kerns, E.H., Profiling drug-like properties in discovery research, *Current Opinion in Chemical Biology*, 7, 402-408, 2003.
- Didziapetris, R., Japertas, P., Avdeef, A. and Petrauskas, A., Classification analysis of P-glycoprotein substrate specificity, *Journal of Drug Targeting*, 11, 391-406, 2003.
- Doppenschmitt, S., Spahn-Langguth, H., Regardh, C.G. and Langguth, P., Role of P-glycoprotein-mediated secretion in absorptive drug permeability: An approach using passive membrane permeability and affinity to P-glycoprotein, *Journal of Pharmaceutical Sciences*, 88, 1067-1072, 1999.
- Erlichman, C., Moore, M., Thiessen, J.J., Kerr, I.G., Walker, S., Goodman, P., Bjarnason, G., DeAngelis, C. and Bunting, P., Phase I pharmacokinetic study of cyclosporin A combined with doxorubicin, *Cancer Research*, 53, 4837-4842, 1993.

- Eytan, G.D., Regev, R., Oren, G. and Assaraf, Y.G., The Role of Passive Transbilayer Drug Movement in Multidrug Resistance and Its Modulation, *Journal of Biological Chemistry*, 271, 12897-12902, 1996.
- Fardel, O., Lecureur, V. and Guillouzo, A., The P-glycoprotein multidrug transporter, *General Pharmacology*, 27, 1283-1291, 1996.
- Fardel, O., Lecureur, V. and Guillouzo, A., The P-glycoprotein multidrug transporter, *General Pharmacology: The Vascular System*, 27, 1283-1291, 1996.
- Fromm, M.F., Importance of P-glycoprotein at blood-tissue barriers, *Trends in Pharmacological Sciences*, 25, 423-429, 2004.
- Galindo-Rodriguez, S.A., Puel, F., Briancon, S., Allemann, E., Doelker, E. and Fessi, H., Comparative scale-up of three methods for producing ibuprofen-loaded nanoparticles, *European Journal of Pharmaceutical Sciences*, 25, 357-367, 2005.
- Ghosh, A.K., Bhattacharyya, F.K. and Ghosh, D.K., *Leishmania donovani*: amastigote inhibition and mode of action of berberine, *Experimental Parasitology*, 60, 404-413, 1985.
- Gui, S.Y., Wu, L., Peng, D.Y., Liu, Q.Y., Yin, B.P. and Shen, J.Z., Preparation and evaluation of a microemulsion for oral delivery of berberine, *Die Pharmazie*, 63, 516-519, 2008.
- Guns, E.S., Denyssevyh, T., Dixon, R., Bally, M.B. and Mayer, L., Drug interaction studies between paclitaxel (Taxol) and OC144-093--a new

- modulator of MDR in cancer chemotherapy, *European Journal of Drug Metabolism and Pharmacokinetics*, 27, 119-126, 2002.
- Gupta, H., Bhandari, D. and Sharma, A., Recent trends in oral drug delivery: a review, *Recent Patents on Drug Delivery & Formulation*, 3, 162-173, 2009.
 - Higgins, C.F. and Gottesman, M.M., Is the multidrug transporter a flippase?, *Trends in Biochemical Sciences*, 17, 18-21, 1992.
 - Hugger, E.D., Novak, B.L., Burton, P.S., Audus, K.L. and Borchardt, R.T., A comparison of commonly used polyethoxylated pharmaceutical excipients on their ability to inhibit P-glycoprotein activity in vitro, *Journal of Pharmaceutical Sciences*, 91, 1991-2002, 2002.
 - Hyafil, F., Vergely, C., Du Vignaud, P. and Grand-Perret, T., In vitro and in vivo reversal of multidrug resistance by GF120918, an acridonecarboxamide derivative, *Cancer Research*, 53, 4595-4602, 1993.
 - Iijima, M, Kamiya, H., Surface modification for improving the stability of nanoparticles in liquid media, *Kona Powder Particle Journal*, 27, 119-129, 2009.
 - Imanshahidi, M. and Hosseinzadeh, H., Pharmacological and therapeutic effects of *Berberis vulgaris* and its active constituent, berberine, *Phytotherapy Research*, 22, 999-1012, 2008.

- Iqbal, M.A., Md, S., Sahni, J.K., Baboota, S., Dang, S. and Ali, J., Nanostructured lipid carriers system: recent advances in drug delivery, *Journal of Drug Targeting*, 20, 813-830, 2012.
- Juliano, R.L. and Ling, V., A surface glycoprotein modulating drug permeability in Chinese hamster ovary cell mutants, *Biochimica et Biophysica Acta*, 455, 152-162, 1976.
- Kaneda, Y., Torii, M., Tanaka, T. and Aikawa, M., In vitro effects of berberine sulphate on the growth and structure of *Entamoeba histolytica*, *Giardia lamblia* and *Trichomonas vaginalis*, *Annals of Tropical Medicine and Parasitology*, 85, 417-425, 1991.
- Kang, D.G., Sohn, E.J., Kwon, E.K., Han, J.H., Oh, H. and Lee, H.S., Effects of berberine on angiotensin-converting enzyme and NO/cGMP system in vessels, *Vascular Pharmacology*, 39, 281-286, 2002.
- Ke, G., Xu, W. and Yu, W., Preparation and Properties of Drug-Loaded Chitosan-Sodium Alginate Complex Membrane, *International Journal of Polymeric Materials and Polymeric Biomaterials*, 59, 184-191, 2009.
- Khayata, N., Abdelwahed, W., Chehna, M.F., Charcosset, C. and Fessi, H., Preparation of vitamin E loaded nanocapsules by the nanoprecipitation method: from laboratory scale to large scale using a membrane contactor, *International Journal of Pharmaceutics*, 423, 419-427, 2012.

- Kheir, M.M., Wang, Y., Hua, L., Hu, J., Li, L., Lei, F. and Du, L., Acute toxicity of berberine and its correlation with the blood concentration in mice, *Food and Chemical Toxicology*, 48, 1105-1110, 2010.
- Khemani, M., Sharon, M. and Sharon, M., Encapsulation of Berberine in Nano-Sized PLGA Synthesized by Emulsification Method, *ISRN Nanotechnology*, 2012, 9, 2012.
- Kim, R.B., Transporters and drug discovery: why, when, and how, *Molecular Pharmaceutics*, 3, 26-32, 2006.
- Kong, W., Wei, J., Abidi, P., Lin, M., Inaba, S., Li, C., Wang, Y., Wang, Z., Si, S., Pan, H., Wang, S., Wu, J., Wang, Y., Li, Z., Liu, J. and Jiang, J.D., Berberine is a novel cholesterol-lowering drug working through a unique mechanism distinct from statins, *Nature Medicine*, 10, 1344-1351, 2004.
- Kong, W.J., Zhang, H., Song, D.Q., Xue, R., Zhao, W., Wei, J., Wang, Y.M., Shan, N., Zhou, Z.X., Yang, P., You, X.F., Li, Z.R., Si, S.Y., Zhao, L.X., Pan, H.N. and Jiang, J.D., Berberine reduces insulin resistance through protein kinase C-dependent up-regulation of insulin receptor expression, *Metabolism*, 58, 109-119, 2009.
- Koziara, J.M., Lockman, P.R., Allen, D.D. and Mumper, R.J., Paclitaxel nanoparticles for the potential treatment of brain tumors, *Journal of Controlled Release*, 99, 259-269, 2004.

- Koziara, J.M., Oh, J.J., Akers, W.S., Ferraris, S.P. and Mumper, R.J., Blood compatibility of cetyl alcohol/polysorbate-based nanoparticles, *Pharmaceutical Research*, 22, 1821-1828, 2005.
- Kreuter, J, editor., *Colloidal Drug Delivery System*, Marcel Dekker Inc., 248-9, 1994.
- Krishna, R. and Mayer, L.D., Multidrug resistance (MDR) in cancer. Mechanisms, reversal using modulators of MDR and the role of MDR modulators in influencing the pharmacokinetics of anticancer drugs, *European Journal of Pharmaceutical Sciences*, 11, 265-283, 2000.
- Kulkarni, S.A. and Feng, S.S., Effects of particle size and surface modification on cellular uptake and biodistribution of polymeric nanoparticles for drug delivery, *Pharmaceutical Research*, 30, 2512-2522, 2013.
- Kulkarni, S.K. and Dhir, A., On the mechanism of antidepressant-like action of berberine chloride, *European Journal of Pharmacology*, 589, 163-172, 2008.
- Kulkarni, S.K. and Dhir, A., Possible involvement of L-arginine-nitric oxide (NO)-cyclic guanosine monophosphate (cGMP) signaling pathway in the antidepressant activity of berberine chloride, *European Journal of Pharmacology*, 569, 77-83, 2007.
- Kunta, J.R. and Sinko, P.J., Intestinal drug transporters: in vivo function and clinical importance, *Current Drug Metabolism*, 5, 109-124, 2004.

-
- Kuo, C.L., Chi, C.W. and Liu, T.Y., The anti-inflammatory potential of berberine in vitro and in vivo, *Cancer Letters*, 203, 127-137, 2004.
 - Kuppens, I.E., Breedveld, P., Beijnen, J.H. and Schellens, J.H., Modulation of oral drug bioavailability: from preclinical mechanism to therapeutic application, *Cancer Investigation*, 23, 443-464, 2005.
 - Lai, J., Lu, Y., Yin, Z., Hu, F. and Wu, W., Pharmacokinetics and enhanced oral bioavailability in beagle dogs of cyclosporine A encapsulated in glyceryl monooleate/poloxamer 407 cubic nanoparticles, *International Journal of Nanomedicine*, 5, 13-23, 2010.
 - Lau, C.W., Yao, X.Q., Chen, Z.Y., Ko, W.H. and Huang, Y., Cardiovascular actions of berberine, *Cardiovascular Drug Reviews*, 19, 234-244, 2001.
 - Lee, S., Lim, H.J., Park, J.H., Lee, K.S., Jang, Y. and Park, H.Y., Berberine-induced LDLR up-regulation involves JNK pathway, *Biochemical and Biophysical Research Communications*, 362, 853-857, 2007.
 - Li, N. and Xu, L., Thermal analysis of β -cyclodextrin/Berberine chloride inclusion compounds, *Thermochimica Acta*, 499, 166-170, 2010.
 - Lin, T.H., Kuo, H.C., Chou, F.P. and Lu, F.J., Berberine enhances inhibition of glioma tumor cell migration and invasiveness mediated by arsenic trioxide, *BMC Cancer*, 8, 1471-2407, 2008.

- Lipinski, C.A., Drug-like properties and the causes of poor solubility and poor permeability, *Journal of Pharmacological and Toxicological Methods*, 44, 235-249, 2000.
- Litman, T., Druley, T.E., Stein, W.D. and Bates, S.E., From MDR to MXR: new understanding of multidrug resistance systems, their properties and clinical significance, *Cellular and Molecular Life Sciences*, 58, 931-959, 2001.
- Liu, C., Liu, X., Tong, J., Chen, D. and Bi, K., Design and evaluation of San-huang dispersible tablet--an efficient delivery system for Traditional Chinese Medicine, *Pharmaceutical Development and Technology*, 14, 506-515, 2009.
- Lo, Y., Liu, F. and Cherng, J., Effect of PSC 833 liposomes and Intralipid on the transport of epirubicin in Caco-2 cells and rat intestines, *Journal of Controlled Release*, 76, 1-10, 2001.
- Lo, Y.L., Relationships between the hydrophilic-lipophilic balance values of pharmaceutical excipients and their multidrug resistance modulating effect in Caco-2 cells and rat intestines, *Journal of Controlled Release*, 90, 37-48, 2003.
- Loo, T.W. and Clarke, D.M., Recent progress in understanding the mechanism of P-glycoprotein-mediated drug efflux, *The Journal of Membrane Biology*, 206, 173-185, 2005.

- Lu, A.H., Salabas, E.L. and Schuth, F., Magnetic nanoparticles: synthesis, protection, functionalization, and application, *Angewandte Chemie*, 46, 1222-1244, 2007.
- Lum, B.L., Kaubisch, S., Yahanda, A.M., Adler, K.M., Jew, L., Ehsan, M.N., Brophy, N.A., Halsey, J., Gosland, M.P. and Sikic, B.I., Alteration of etoposide pharmacokinetics and pharmacodynamics by cyclosporine in a phase I trial to modulate multidrug resistance, *Journal of Clinical Oncology*, 10, 1635-1642, 1992.
- Lv, X.Y., Li, J., Zhang, M., Wang, C.M., Fan, Z., Wang, C.Y. and Chen, L., Enhancement of Sodium Caprate on Intestine Absorption and Antidiabetic Action of Berberine, *AAPS Pharmaceutical Science and Technology*, 11, 372-382, 2010.
- Mainardes, R.M. and Evangelista, R.C., PLGA nanoparticles containing praziquantel: effect of formulation variables on size distribution, *International Journal of Pharmaceutics*, 290, 137-144, 2005.
- Mayer, A., Vadon, M., Rinner, B., Novak, A., Wintersteiger, R. and Frohlich, E., The role of nanoparticle size in hemocompatibility, *Toxicology*, 258, 139-147, 2009.
- Merisko-Liversidge, E., Liversidge, G.G. and Cooper, E.R., Nanosizing: a formulation approach for poorly-water-soluble compounds, *European Journal of Pharmaceutical Sciences*, 18, 113-120, 2003.

- Moneghini, M., De Zordi, N., Solinas, D., Macchiavelli, S. and Princivalle, F., Characterization of solid dispersions of itraconazole and vitamin E TPGS prepared by microwave technology, *Future Medicinal Chemistry*, 2, 237-246, 2010.
- Mouly, S. and Paine, M.F., P-glycoprotein increases from proximal to distal regions of human small intestine, *Pharmaceutical Research*, 20, 1595-1599, 2003.
- Mouly, S. and Paine, M.F., P-glycoprotein increases from proximal to distal regions of human small intestine, *Pharmaceutical Research*, 20, 1595-1599, 2003.
- Mu, L. and Feng, S.S., A novel controlled release formulation for the anticancer drug paclitaxel (Taxol): PLGA nanoparticles containing vitamin E TPGS, *Journal of Controlled Release*, 86, 33-48, 2003.
- Murakami, H., Kobayashi, M., Takeuchi, H. and Kawashima, Y., Utilization of poly(DL-lactide-co-glycolide) nanoparticles for preparation of mini-depot tablets by direct compression, *Journal of Controlled Release*, 67, 29-36, 2000.
- Nair, K.P., Giardiasis in children, *Pediatric Clinic India*, 5, 45, 1973.
- Nassar, T., Rom, A., Nyska, A. and Benita, S., Novel double coated nanocapsules for intestinal delivery and enhanced oral bioavailability of tacrolimus, a P-gp substrate drug, *Journal of Controlled Release*, 133, 77-84, 2009.

- Neuhoff, S., Ungell, A.-L., Zamora, I. and Artursson, P., pH-Dependent Bidirectional Transport of Weakly Basic Drugs Across Caco-2 Monolayers: Implications for Drug–Drug Interactions, *Pharmaceutical Research*, 20, 1141-1148, 2003.
- Neuhoff, S., Ungell, A.L., Zamora, I. and Artursson, P., pH-Dependent passive and active transport of acidic drugs across Caco-2 cell monolayers, *European Journal of Pharmaceutical Sciences*, 25, 211-220, 2005.
- Pajeva, I.K. and Wiese, M., Structure-activity relationships of tariquidar analogs as multidrug resistance modulators, *The AAPS Journal*, 11, 435-444, 2009.
- Pan, G.Y., Wang, G.J., Liu, X.D., Fawcett, J.P. and Xie, Y.Y., The involvement of P-glycoprotein in berberine absorption, *Pharmacology & Toxicology*, 91, 193-197, 2002.
- Patwardhan, B, Hopper, M.L, Ayurveda and future drug development, *Journal of Alternative Complementary Medicine*, 3, 9-11, 1992.
- Peng, W.H., Lo, K.L., Lee, Y.H., Hung, T.H. and Lin, Y.C., Berberine produces antidepressant-like effects in the forced swim test and in the tail suspension test in mice, *Life Sciences*, 81, 933-938, 2007.
- Peppas, N.A., Analysis of Fickian and non-Fickian drug release from polymers, *Pharmaceutica Acta Helvetiae*, 60, 110-111, 1985.

- Robert, J. and Jarry, C., Multidrug resistance reversal agents, *Journal of Medicinal Chemistry*, 46, 4805-4817, 2003.
- Rowinsky, E.K., Smith, L., Wang, Y.M., Chaturvedi, P., Villalona, M., Campbell, E., Aylesworth, C., Eckhardt, S.G., Hammond, L., Kraynak, M., Drengler, R., Stephenson, J., Jr., Harding, M.W. and Von Hoff, D.D., Phase I and pharmacokinetic study of paclitaxel in combination with biricodar, a novel agent that reverses multidrug resistance conferred by overexpression of both MDR1 and MRP, *Journal of Clinical Oncology*, 16, 2964-2976, 1998.
- Sababi, M., Borga, O. and Hultkvist-Bengtsson, U., The role of P-glycoprotein in limiting intestinal regional absorption of digoxin in rats, *European Journal of Pharmaceutical Sciences*, 14, 21-27, 2001.
- Sachs-Barrable, K., Thamboo, A., Lee, S.D. and Wasan, K.M., Lipid excipients Peceol and Gelucire 44/14 decrease P-glycoprotein mediated efflux of rhodamine 123 partially due to modifying P-glycoprotein protein expression within Caco-2 cells, *Journal of Pharmacy & Pharmaceutical Sciences*, 10, 319-331, 2007.
- Sack, R.B., Froehlich, J.L., Berberine- one herb in many ways, *Alternative Medicine Reviews*, 5, 175-182, 2000.
- Sauna, Z.E., Smith, M.M., Muller, M., Kerr, K.M. and Ambudkar, S.V., The mechanism of action of multidrug-resistance-linked P-glycoprotein, *Journal of Bioenergetics and Biomembranes*, 33, 481-491, 2001.

- Schinkel, A.H., Kemp, S., Dolle, M., Rudenko, G. and Wagenaar, E., N-glycosylation and deletion mutants of the human MDR1 P-glycoprotein, *The Journal of Biological Chemistry*, 268, 7474-7481, 1993.
- See, Y.P., Carlsen, S.A., Till, J.E. and Ling, V., Increased drug permeability in Chinese hamster ovary cells in the presence of cyanide, *Biochimica et Biophysica Acta*, 373, 242-252, 1974.
- Sharom, F.J., The P-glycoprotein efflux pump: how does it transport drugs?, *The Journal of Membrane Biology*, 160, 161-175, 1997.
- Shegokar, R. and Muller, R.H., Nanocrystals: industrially feasible multifunctional formulation technology for poorly soluble actives, *International Journal of Pharmaceutics*, 399, 129-139, 2010.
- Shen, Q., Lin, Y., Handa, T., Doi, M., Sugie, M., Wakayama, K., Okada, N., Fujita, T. and Yamamoto, A., Modulation of intestinal P-glycoprotein function by polyethylene glycols and their derivatives by in vitro transport and in situ absorption studies, *International Journal of Pharmaceutics*, 313, 49-56, 2006.
- Sheng, W.D., Jiddawi, M.S., Hong, X.Q. and Abdulla, S.M., Treatment of chloroquine-resistant malaria using pyrimethamine in combination with berberine, tetracycline or cotrimoxazole, *East African Medical Journal*, 74, 283-284, 1997.

- Shono, Y., Nishihara, H., Matsuda, Y., Furukawa, S., Okada, N., Fujita, T. and Yamamoto, A., Modulation of intestinal P-glycoprotein function by cremophor EL and other surfactants by an in vitro diffusion chamber method using the isolated rat intestinal membranes, *Journal of Pharmaceutical Sciences*, 93, 877-885, 2004.
- Singh, R. and Nalwa, H.S., Medical applications of nanoparticles in biological imaging, cell labeling, antimicrobial agents, and anticancer nanodrugs, *Journal of Biomedical and Nanotechnology*, 7, 489-503, 2011.
- Singh, S. and Muthu, M.S., Preparation and characterization of nanoparticles containing an atypical antipsychotic agent, *Nanomedicine : Nanotechnology, Biology, and Medicine*, 2, 233-240, 2007.
- Stephens, R.H., Tanianis-Hughes, J., Higgs, N.B., Humphrey, M. and Warhurst, G., Region-dependent modulation of intestinal permeability by drug efflux transporters: in vitro studies in *mdr1a(-/-)* mouse intestine, *The Journal of Pharmacology and Experimental Therapeutics*, 303, 1095-1101, 2002.
- Sun, D., Abraham, S.N. and Beachey, E.H., Influence of berberine sulfate on synthesis and expression of Pap fimbrial adhesin in uropathogenic *Escherichia coli*, *Antimicrobial Agents and Chemotherapy*, 32, 1274-1277, 1988.

- Swabb, E.A., Tai, Y.H. and Jordan, L., Reversal of cholera toxin-induced secretion in rat ileum by luminal berberine, *The American Journal of Physiology*, 241, G248-252, 1981.
- Szeto, S, Yow, C.M.N., Fung, K.W., Characterization of berberine on human cancer cells in culture, *Turkish Journal of Medical Sciences*, 3, 63-71, 2002.
- Thiebaut, F., Tsuruo, T., Hamada, H., Gottesman, M.M., Pastan, I. and Willingham, M.C., Cellular localization of the multidrug-resistance gene product P-glycoprotein in normal human tissues, *Proceedings of the National Academy of Sciences of the United States of America*, 84, 7735-7738, 1987.
- Tolcher, A.W., Cowan, K.H., Solomon, D., Ognibene, F., Goldspiel, B., Chang, R., Noone, M.H., Denicoff, A.M., Barnes, C.S., Gossard, M.R., Fetsch, P.A., Berg, S.L., Balis, F.M., Venzon, D.J. and O'Shaughnessy, J.A., Phase I crossover study of paclitaxel with r-verapamil in patients with metastatic breast cancer, *Journal of Clinical Oncology*, 14, 1173-1184, 1996.
- Tsai, P. and Tsai, T.H., Simultaneous determination of berberine in rat blood, liver and bile using microdialysis coupled to high-performance liquid chromatography, *Journal of Chromatography A*, 961, 125-130, 2002.

- Tsuruo, T., Iida, H., Tsukagoshi, S. and Sakurai, Y., Overcoming of vincristine resistance in P388 leukemia in vivo and in vitro through enhanced cytotoxicity of vincristine and vinblastine by verapamil, *Cancer Research*, 41, 1967-1972, 1981.
- Van Zuylen, L., Sparreboom, A., van der Gaast, A., Nooter, K., Eskens, F.A., Brouwer, E., Bol, C.J., de Vries, R., Palmer, P.A. and Verweij, J., Disposition of docetaxel in the presence of P-glycoprotein inhibition by intravenous administration of R101933, *European Journal of Cancer*, 38, 1090-1099, 2002.
- Varma, M.V. and Panchagnula, R., pH-dependent functional activity of P-glycoprotein in limiting intestinal absorption of protic drugs: kinetic analysis of quinidine efflux in situ, *Journal of Pharmaceutical Sciences*, 94, 2632-2643, 2005.
- Varma, M.V. and Panchagnula, R., Prediction of in vivo intestinal absorption enhancement on P-glycoprotein inhibition, from rat in situ permeability, *Journal of Pharmaceutical Sciences*, 94, 1694-1704, 2005 a.
- Varma, M.V., Ashokraaj, Y., Dey, C.S. and Panchagnula, R., P-glycoprotein inhibitors and their screening: a perspective from bioavailability enhancement, *Pharmacological Research*, 48, 347-359, 2003.
- Varma, M.V., Sateesh, K. and Panchagnula, R., Functional role of P-glycoprotein in limiting intestinal absorption of drugs: contribution of

- passive permeability to P-glycoprotein mediated efflux transport, *Molecular Pharmaceutics*, 2, 12-21, 2005.
- Varma, M.V., Sateesh, K. and Panchagnula, R., Functional role of P-glycoprotein in limiting intestinal absorption of drugs: contribution of passive permeability to P-glycoprotein mediated efflux transport, *Molecular Pharmaceutics*, 2, 12-21, 2005.
 - Vijayakumar, M.R., Muthu, M.S. and Singh, S., Copolymers of poly(lactic acid) and D-alpha-tocopheryl polyethylene glycol 1000 succinate-based nanomedicines: versatile multifunctional platforms for cancer diagnosis and therapy, *Expert Opinion on Drug Delivery*, 10, 529-543, 2013.
 - Vuddanda, P.R., Chakraborty, S. and Singh, S., Berberine: a potential phytochemical with multispectrum therapeutic activities, *Expert opinion on Investigational Drugs*, 19, 1297-1307, 2010.
 - Wang, T., Wang, N., Song, H., Xi, X., Wang, J., Hao, A. and Li, T., Preparation of an anhydrous reverse micelle delivery system to enhance oral bioavailability and anti-diabetic efficacy of berberine, *European Journal of Pharmaceutical Sciences*, 44, 127-135, 2011.
 - Xin, H.W., Wu, X.C., Li, Q, Yu, A.R., Zhong, M.Y., Zhu, M, Liu, Y.Y., Effects of coadministration of berberine chloride with cyclosporine on liver microsomal cytochrome P450 isoenzyme and mdr1 in rats. *Chinese Pharmacological Bulletin*, 18,397-401, 2002.

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- Yallapu, M.M., Ebeling, M.C., Chauhan, N., Jaggi, M. and Chauhan, S.C., Interaction of curcumin nanoformulations with human plasma proteins and erythrocytes, *International Journal of Nanomedicine*, 6, 2779-2790, 2011.
 - Yin, J., Xing, H. and Ye, J., Efficacy of berberine in patients with type 2 diabetes mellitus, *Metabolism*, 57, 712-717, 2008.
 - Zeng, X., HPLC determination of berberine in plasma of patients with ischemic heart failure, *Chromatographia*, 48, 589-590, 1998.
 - Zhang, L., Strong, J.M., Qiu, W., Lesko, L.J. and Huang, S.M., Scientific perspectives on drug transporters and their role in drug interactions, *Molecular Pharmaceutics*, 3, 62-69, 2006.
 - Zhang, Z., Tan, S. and Feng, S.S., Vitamin E TPGS as a molecular biomaterial for drug delivery, *Biomaterials*, 33, 4889-4906, 2012.
 - Zheng, Y., Chen, H., Zeng, X., Liu, Z., Xiao, X., Zhu, Y., Gu, D. and Mei, L., Surface modification of TPGS-b-(PCL-ran-PGA) nanoparticles with polyethyleneimine as a co-delivery system of TRAIL and endostatin for cervical cancer gene therapy, *Nanoscale Research Letters*, 8, 8-161, 2013.
 - Zhou, J., Zhou, S., Tang, J., Zhang, K., Guang, L., Huang, Y., Xu, Y., Ying, Y., Zhang, L. and Li, D., Protective effect of berberine on beta cells in streptozotocin- and high-carbohydrate/high-fat diet-induced diabetic rats, *European Journal of Pharmacology*, 606, 262-268, 2009.