

PIDG - Infections Research Outputs

1. Haidari, H., Kopecki, Z., Sutton, A. T., Garg, S., Cowin, A., and Vasilev, K. (2021) pH-responsive “smart” hydrogel for controlled delivery of silver nanoparticles to infected wounds, *Antibiotics* 10, 49.
2. Haidari, H., Kopecki, Z., Bright, R., Strudwick, X., Garg, S., Vasilev, K., Cowin, A. (2021) Multifunctional Ultrasmall AgNP Hydrogel Accelerates Healing of *S. aureus* Infected Wounds, *Acta Biomaterialia*, 40.
3. Vitali, D., Bagri, P., Wessels, J. M., Arora, M., Ganugula, R., Parikh, A., Mandur, T., Felker, A., Garg, S., Kumar, M. N. V. R., and Kaushic, C. (2020) Curcumin Can Decrease Tissue Inflammation and the Severity of HSV-2 Infection in the Female Reproductive Mucosa, *International Journal of Molecular Sciences* 21, 337.
4. Saleem, S., Iqubal, M. K., Garg, S., Ali, J., and Baboota, S. (2020) Trends in nanotechnology-based delivery systems for dermal targeting of drugs: an enticing approach to offset psoriasis, *Expert Opinion on Drug Delivery* 17, 817-838.
5. Pi, H., Nguyen, H. T., Venter, H., Boileau, A. R., Woolford, L., Garg, S., Page, S., Russell, C. C., Baker, J. R., McCluskey, A., O'Donovan, L. A., Trott, D., and Ogunniyi, A. (2020) In vitro activity of robenidine analogue NCL195 in combination with adjuvants against Gram-negative bacterial pathogens and impact on systemic Gram-positive bacterial infection in mice, *Frontiers in Microbiology* 11, Article 1556.
6. Pansara, C., Mishra, R., Mehta, T., Parikh, A., and Garg, S. (2020) Formulation of chitosan stabilized silver nanoparticle-containing wound healing film: In-vitro and in-vivo characterization, *J. Pharm. Sci.* 109, 2196-2205.
7. Muta, T., Parikh, A., Kathawala, K., Haidari, H., Song, Y., Thomas, J., and Garg, S. (2020) Quality by design approach for the development of nano-sized tea tree oil formulation-impregnated biocompatible gel with anti-microbial properties, *Pharmaceutics* 12, 1091.
8. Haidari, H., Kopecki, Z., Bright, R., Cowin, A., Garg, S., Goswami, N., and Vasilev, K. (2020) Ultra-small AGNPs impregnated biocompatible hydrogel with highly effective biofilm elimination properties, *ACS Applied Materials and Interfaces* 12, 41011-41025.
9. Haidari, H., Garg, S., Vasilev, K., Kopecki, Z., and Cowin, A. (2020) Silver-based wound dressings: current issues and future developments for treating bacterial infections, *Wound Practice and Research* 28, 173-180.
10. Pansara, C., Chan, W. Y., Parikh, A., Trott, D., Mehta, T., Mishra, R., and Garg, S. (2019) Formulation optimization of chitosan stabilised silver nanoparticles using in-vitro antimicrobial assay, *J Pharm Sci* 108, 1007-1016.
11. Mehta, C. H., Narayan, R., Aithal, G. C., Pandiyan, S., Bhat, P., Dengale, S., Shah, A., Nayak, U. Y., and Garg, S. (2019) Molecular simulation driven experiment for formulation of fixed dose combination of Darunavir and Ritonavir as anti-HIV nanosuspension, *Journal of Molecular Liquids* 293, 111469.
12. Haidari, H., Goswami, N., Bright, R., Kopecki, Z., Cowin, A. J., Garg, S., and Vasilev, K. (2019) The interplay between size and valence state on the antibacterial activity of sub-10 nm silver nanoparticles, *Nanoscale Advances* 1, 2365-2371.
13. Afinjuomo, F., Barclay, T., Parikh, A., Song, Y., Chung, R., Wang, L., Liang, L., Hayball, J. D., Petrovski, N., and Garg, S. (2019) Design and Characterization of Inulin Conjugate for Improved Intracellular and Targeted Delivery of Pyrazinoic Acid to Monocytes, *Pharmaceutics* 11, 243.

14. Afinjuomo, F., Barclay, T., Parikh, A., Chung, R., Song, Y., Nagalingam, G., Triccas, J., Wang, L., Liu, L., Hayball, J., Petrovski, N., and Garg, S. (2019) Synthesis and characterization of pH-sensitive Inulin conjugate of Isoniazid for monocyte-targeted delivery, *Pharmaceutics* 11, 555.
15. Ogunniyi, A., Kopecki, Z., Hickey, E., Khazandi, M., Peel, E., Belov, K., Boileau, A. R., Garg, S., Venter, H., Chan, W. Y., Hill, P., Page, S., Cowin, A. J., and Trott, D. J. (2018) Bioluminescent murine models of bacterial sepsis and scald wound infections for antimicrobial efficacy testing, *Plos One* 13, e0200195.
16. Aithal, G. C., Nayak, U. Y., Mehta, C., Narayan, R., Kundapur, P. P., Pandiyan, S., and Garg, S. (2018) Localised in situ nanoemulgel drug delivery system of quercetin for periodontitis: development and computational simulations, *Molecules* 23, 1363 (1361-1315).
17. Haidari, H., Zhang, Q., Melville, E., Kopecki, Z., Song, Y., Cowin, A. J., and Garg, S. (2017) Development of topical delivery systems for the flightless neutralizing antibody, *Journal of Pharmaceutical Sciences* 106, 1795-1804.
18. Totoli, E. G., Garg, S., and Salgado, H. R. N. (2015) Daptomycin: Physico-chemical, Analytical and Pharmacological Properties, *Therapeutic Drug Monitoring* 37, 699-710.
19. Li, N., Zhang, P., Huang, C., Song, Y., Garg, S., and Luan, Y. (2015) Co-delivery of doxorubicin hydrochloride and verapamil hydrochloride by pH sensitive polymersomes for the reversal of multidrug resistance, *RSC Advances* 5, 77986-77995.
20. Kanwar, J. R., Roy, K., Patel, Y., Zhou, S. F., Singh, M. R., Singh, D., Nasir, M., Sehgal, R., Sehgal, A., Singh, R. S., Garg, S., and Kanwar, R. K. (2015) Multifunctional iron bound lactoferrin and nanomedicinal approaches to enhance its bioactive functions, *Molecules* 20, 9703-9731.
21. Chan, D., Alka, G., Lwin, E. M. P., Fotios, A., and Garg, S. (2014) Penicillin antibiotic drug stability in syringes for the purpose of skin testing in drug allergy, *Allergy* 69, 101-101.
22. Koh, P. T., Chuah, J. N., Talekar, M., Gorajana, A., and Garg, S. (2013) Formulation development and dissolution rate enhancement of Efavirenz by solid dispersion systems, *Indian J Pharm Sci* May-June, 291-301.
23. Grey, A., Garg, S., Dray, M., Purvis, L., Horne, A., Callon, K., Gamble, G., Bolland, M., Reid, I. R., and Cundy, T. (2013) Low-dose fluoride in postmenopausal women: a randomized controlled trial, *Journal of Clinical Endocrinology & Metabolism* 98, 2301-2307.
24. Gorajana, A., Ying, C. C., Shuang, Y., Fong, P., Tan, Z., Gupta, J., Talekar, M., Sharma, M., and Garg, S. (2013) Development of solid dispersion systems of dapivirine to enhance its solubility, *Current Drug Delivery* 10, 309-316.
25. Chen, S., Cao, Y., Ferguson, L. R., Shu, Q., and Garg, S. (2013) Evaluation of mucoadhesive coatings of chitosan and thiolated chitosan for the colonic delivery of microencapsulated probiotic bacteria, *Journal of Microencapsulation* 30, 103-115.
26. Cazedey, E. C. L., Garg, S., and Salgado, H. R. N. (2013) Evaluation and degradation chemistry of Orbifloxacin using LC-MS, *International Journal of Sciences* 2, 11-20.
27. Garg, S., Kauffmann, K., Othman, A., Ticehurst, R., Sharma, M., and Svirskis, D. (2012) Stability Assessment of Extemporaneous Formulation of Amoxicillin for Parenteral Antimicrobial Therapy, *Current Pharmaceutical Analysis* 8, 375-380.
28. Chen, S., Zhao, Q., Ferguson, L. R., Shu, Q., Weir, I., and Garg, S. (2012) Development of a novel probiotic delivery system based on microencapsulation with protectants, *Applied Microbiology and Biotechnology* 93, 1447-1457.
29. Chen, S., Cao, Y., Ferguson, L. R., Shu, Q., and Garg, S. (2012) The effect of immobilization of probiotic *Lactobacillus reuteri* DPC16 in sub-100 μm microcapsule on food-borne pathogens, *World Journal of Microbiology & Biotechnology* 28, 2447-2452.

30. Chen, S., Cao, Y., Ferguson, L. R., Shu, Q., and Garg, S. (2012) Flow cytometric assessment of the protectants for enhanced in vitro survival of probiotic lactic acid bacteria through simulated human gastrointestinal stresses, *Applied Microbiology and Biotechnology* 95, 345-356.
31. Gupta, J., Tao, J. Q., Garg, S., and Al-Kassas, R. (2011) Design and development of an in-vitro assay for evaluation of solid vaginal dosage forms, *Pharmacology and Pharmacy* 2, 289-298.
32. Gupta, J., Othman, A., Tao, J. Q., and Garg, S. (2011) Development and Validation of an HPLC Method for Simultaneous Determination of Dapivirine and DSOO3 in Combination Microbicide Tablet, *Current Pharmaceutical Analysis* 7, 21-26.
33. Chen, S., Ferguson, L. R., Shu, Q., and Garg, S. (2011) The application of flow cytometry to the characterisation of a probiotic strain *Lactobacillus reuteri* DPC16 and the evaluation of sugar preservatives for its lyophilization, *Lwt-Food Science and Technology* 44, 1873-1879.
34. Cazedey, E. C. L., Othman, A., Garg, S., and Salgado, H. R. N. (2011) A Validated Stability-Indicating LC Method for Orbifloxacin in the Presence of Degradation Products, *Current Pharmaceutical Analysis* 7, 176-181.
35. Sharma, P., and Garg, S. (2010) Pure drug and polymer based nanotechnologies for the improved solubility, stability, bioavailability, and targeting of anti-HIV drugs, *Advanced Drug Delivery Reviews* 62, 491-502.
36. Garg, S., Goldman, D., Krumme, M., Rohan, L. C., Smoot, S., and Friend, D. R. (2010) Advances in development, scale-up, and manufacturing of microbicide gels, films, and tablets, *Antiviral Research* 88, S19-S29.
37. Salgado, H. R. N., Moreno, A., and Garg, S. (2009) LC-DAD Determination of Fleroxacin in Bulk and Pharmaceutical Dosage Forms, *Chromatographia* 69, 237-240.
38. Romano, J., Malcolm, R. K., Garg, S., Rohan, L. C., and Kaptur, P. E. (2008) Microbicide delivery: formulation technologies and strategies, *Current Opinion in HIV and AIDS* 3, 558-566.
39. Bansal, T., and Garg, S. (2008) Probiotics: From functional foods to pharmaceutical products, *Current Pharmaceutical Biotechnology* 9, 267-287.
40. Garg, S., Jambu, L., and Vermani, K. (2007) Development of novel sustained release bioadhesive vaginal tablets of povidone iodine, *Drug Development and Industrial Pharmacy* 33, 1340-1349.
41. Garg, S., Vermani, K., Garg, A., Anderson, R. A., Rencher, W. B., and Zaneveld, L. J. D. (2005) Development and characterization of bioadhesive vaginal films of sodium polystyrene sulfonate (PSS), a novel contraceptive antimicrobial agent, *Pharmaceutical Research* 22, 584-595.
42. Garg, A., Anderson, R. A., Zaneveld, L. J. D., and Garg, S. (2005) Biological activity assessment of a novel contraceptive antimicrobial agent, *Journal of Andrology* 26, 414-421.
43. Jhamb, S. S., and Garg, S. (2004) Comparative evaluation of different bacterial media for the total aerobic bacterial count in deionised water, *Ind. J. Pharm. Sci.*, 34-37.
44. Garg, S., Tambwekar, K. R., Vermani, K., Kandarapu, R., Garg, A., Waller, D. P., and Zaneveld, L. J. D. (2003) Development pharmaceutics of microbicide formulations. Part II: Formulation, evaluation, and challenges, *Aids Patient Care and Stds* 17, 377-399.
45. Garg, S., Kandarapu, R., Vermani, K., Garg, A., Waller, D. P., and Zaneveld, L. J. D. (2003) Development pharmaceutics of microbicide formulations. Part 1: Preformulation considerations and challenges, *Aids Patient Care and Stds* 17, 17-32.

46. Vermani, K., Garg, S., and Zaneveld, L. J. D. (2002) Assemblies for in vitro measurement of bioadhesive strength and retention characteristics in the simulated vaginal environment, *Drug Development and Industrial Pharmacy* 28, 1133-1146.
47. Vermani, K., and Garg, S. (2002) Herbal medicines for sexually transmitted diseases and AIDS, *Journal of Ethnopharmacology* 80, 49-66.
48. Kandrapu, R., Grover, V., Chawla, H. P. S., and Garg, S. (2001) Evaluation of the compatibility of ketorolac tromethamine with selected polymers and common tablet excipients by thermal and isothermal stress testing, *Stp Pharma Sciences* 11, 449-457.
49. Garg, S., Tambwekar, K., Vermani, K., Garg, A., Kaul, C. L., and Zaneveld, L. Z. D. (2001) Compendium of pharmaceutical excipients for the vaginal application (North America), *Pharm. Tech.* 25, 14-24.
50. Garg, S., Anderson, R. A., Chany, C. J., Waller, D. P., Diao, X. H., Vermani, K., and Zaneveld, L. J. D. (2001) Properties of a new acid-buffering bioadhesive vaginal formulation (ACIDFORM), *Contraception* 64, 67-75.
51. Garg, A., Garg, S., Zaneveld, L. J. D., and Singla, A. K. (2001) Chemistry and pharmacology of the Citrus bioflavonoid hesperidin, *Phytotherapy Research* 15, 655-669.
52. Vermani, K., and Garg, S. (2000) The scope and potential of vaginal drug delivery systems, *Pharm. Sci. Tech.* Today 3, 359-364.
53. Damu, U. K., Vermani, K., Garg, S., and Zaneveld, L. J. D. (2000) Development and evaluation of a bioadhesive vaginal film for EGB, a novel antimicrobial contraceptive agent, *Indian J. Pharm. Sci.* 62, 505.
54. Mukherjee, S., Garg, S., and Talwar, G. P. (1999) Early post implantation contraceptive effects of a purified fraction of neem (*Azadirachta indica*) seeds, given orally in rats: possible mechanisms involved, *Journal of Ethnopharmacology* 67, 287-296.
55. Amaral, E., Faundes, A., Zaneveld, L., Waller, D., and Garg, S. (1999) Study of the vaginal tolerance to acidform, an acid-buffering, bioadhesive gel, *Contraception* 60, 361-366.
56. Garg, S., Talwar, G. P., and Upadhyay, S. N. (1998) Immunocontraceptive activity guided fractionation and characterization of active constituents of neem (*Azadirachta indica*) seed extracts, *Journal of Ethnopharmacology* 60, 235-246.
57. Dhar, R., Zhang, K., Talwar, G. P., Garg, S., and Kumar, N. (1998) Inhibition of the growth and development of asexual and sexual stages of drug-sensitive and resistant strains of the human malaria parasite *Plasmodium falciparum* by Neem (*Azadirachta indica*) fractions, *Journal of Ethnopharmacology* 61, 31-39.
58. Dhar, R., Dawar, H., Garg, S., Basir, S. F., and Talwar, G. P. (1996) Effect of volatiles from neem and other natural products on gonotrophic cycle and oviposition of *Anopheles stephensi* and *An-culicifacies* (Diptera: Culicidae), *Journal of Medical Entomology* 33, 195-201.
59. Talwar, G. P., Pal, R., Singh, O., Garg, S., Taluja, V., Upadhyay, S. N., Gopalan, S., Jain, V., Kaur, J., and Sehgal, S. (1995) Safety of intrauterine administration of purified neem seed oil (PRANEEM-VILCI) in women and effect of its coadministration with the heterospecies dimer birth-control vaccine on antibody-response to human chorionic-gonadotropin, *Indian Journal of Medical Research* 102, 66-70.
60. Talwar, G. P., Garg, S., Dhar, V., Chabra, R., Ganju, A., and Upadhyay, S. N. (1995) Praneem polyherbal cream and pessaries with dual properties of contraception and alleviation of genital infections, *Current Science* 68, 437-440.
61. Mittal, A., Kapur, S., Garg, S. J., Pharma, M., Upadhyay, S. U., Suri, S., Das, S. K., Gupta, S., and Talwar, G. P. (1995) Clinical-trial with Praneem polyherbal cream in patients with abnormal vaginal discharge due to microbial infections, *Australian & New Zealand Journal of Obstetrics & Gynaecology* 35, 190-191.

62. Garg, S., Talwar, G. P., and Upadhyay, S. N. (1994) Comparison of extraction procedures on the immunocontraceptive activity of neem seed extracts, *Journal of Ethnopharmacology* 44, 87-92.
63. Garg, S., Doncel, G., Chabra, S., Upadhyay, S. N., and Talwar, G. P. (1994) The synergistic spermicidal activity of neem seed extract, reetha saponins and quinine hydrochloride, *Contraception* 50, 185-190.
64. Garg, S. (1994) Antifertility activity of Neem Seed extracts, *Indian Drugs* 31, 401-404.
65. Garg, S., Taluja, V., Upadhyay, S. N., and Talwar, G. P. (1993) Studies on the contraceptive efficacy of Praneem polyherbal cream, *Contraception* 48, 591-596.
66. Upadhyay, S. N., Dhawan, S., Garg, S., and Talwar, G. P. (1992) Immunomodulatory effects of neem (*Azadirachta-indica*) oil, *International Journal of Immunopharmacology* 14, 1187-1193.