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### Publications

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#### PUBLICATIONS

- **Selective Targeting of alpha4beta7/MAdCAM-1 Axis Suppresses Fibrosis Progression by Reducing Proinflammatory T Cell Recruitment to the Liver.** *Cells*  
Gupta, B., Rai, R. P., Pal, P. B., Rossmiller, D., Chaudhary, S., Chiaro, A., Seaman, S., Singhi, A. D., Liu, S., Monga, S. P., Iyer, S. S., Raeman, R. 2024; 13 (9)
- **Heterogeneity of Human Invariant Natural Killer T Cells, Including Novel Naive-like CD8+ and Temra-like CD4-CD8- Populations, Revealed through Single Cell RNA-Sequencing**  
Mavers, M., Hollingsworth, D., Jayasinghe, R. G., Boonchalmvichian, C., Gupta, B., Yan, H., Baker, J., Dejene, B., Weinberg, K. I., Negrin, R. S. AMER SOC HEMATOLOGY.2023
- **Intestinal Barrier Dysfunction in Fatty Liver Disease: Roles of Microbiota, Mucosal Immune System, and Bile Acids.** *Seminars in liver disease*  
Gupta, B., Rai, R., Oertel, M., Raeman, R. 2022; 42 (2): 122-137
- **SELECTIVE TARGETING OF alpha 4 beta 7/MADCAM-1 SUPPRESSES HEPATIC FIBROSIS PROGRESSION BY DECREASING RECRUITMENT OF IMMUNE CELLS TO THE INJURED LIVER**  
Gupta, B., Rai, R., Singhi, A., Monga, S. S., Raeman, R. WILEY.2021: 116A
- **Recent progress in cancer immunotherapy approaches based on nanoparticle delivery devices** *JOURNAL OF PHARMACEUTICAL INVESTIGATION*  
Gupta, B., Kim, J. 2021; 51 (4): 399-412
- **Blocking integrin alpha(4)beta(7)-mediated CD4 T cell recruitment to the intestine and liver protects mice from western diet-induced non-alcoholic steatohepatitis** *JOURNAL OF HEPATOLOGY*  
Rai, R. P., Liu, Y., Iyer, S. S., Liu, S., Gupta, B., Desai, C., Kumar, P., Smith, T., Singhi, A. D., Nusrat, A., Parkos, C. A., Monga, S. P., Czaja, et al 2020; 73 (5): 1013-1022
- **Tie2-mediated vascular remodeling by ferritin-based protein C nanoparticles confers antitumor and anti-metastatic activities** *JOURNAL OF HEMATOLOGY & ONCOLOGY*  
Choi, Y., Jang, H., Gupta, B., Jeong, J., Ge, Y., Yong, C., Kim, J., Bae, J., Song, I., Kim, I., Lee, Y. 2020; 13 (1): 123
- **Stealth Polymer-Coated Graphene Oxide Decorated Mesoporous Titania Nanoplatfoms for In Vivo Chemo-Photodynamic Cancer Therapy** *PHARMACEUTICAL RESEARCH*  
Gautam, M., Gupta, B., Soe, Z., Poudel, K., Maharjan, S., Jeong, J., Choi, H., Ku, S., Yong, C., Kim, J. 2020; 37 (8): 162
- **Western diet-induced increase in colonic bile acids compromises epithelial barrier in nonalcoholic steatohepatitis** *FASEB JOURNAL*  
Gupta, B., Liu, Y., Chopyk, D. M., Rai, R. P., Desai, C., Kumar, P., Farris, A. B., Nusrat, A., Parkos, C. A., Anania, F. A., Raeman, R. 2020; 34 (5): 7089-7102
- **Phytosterol-loaded CD44 receptor-targeted PEGylated nano-hybrid phyto-liposomes for synergistic chemotherapy** *EXPERT OPINION ON DRUG DELIVERY*  
Gautam, M., Thapa, R., Gupta, B., Soe, Z., Ou, W., Poudel, K., Jin, S., Choi, H., Yong, C., Kim, J. 2020; 17 (3): 423-434

- **Multifaceted NIR-responsive polymer-peptide-enveloped drug-loaded copper sulfide nanoplatfor for chemo-phototherapy against highly tumorigenic prostate cancer** *NANOMEDICINE-NANOTECHNOLOGY BIOLOGY AND MEDICINE*  
Poudel, K., Thapa, R., Gautam, M., Ou, W., Soe, Z., Gupta, B., Ruttala, H., Hanh Nguyen Thuy, Phung Cao Dai, Jeong, J., Ku, S., Choi, H., Yong, C., Kim, et al  
2019; 21: 102042
- **Aerosol technique-based carbon-encapsulated hollow mesoporous silica nanoparticles for synergistic chemo-photothermal therapy** *ACTA BIOMATERIALIA*  
Gautam, M., Thapa, R., Poudel, B., Gupta, B., Ruttala, H., Hanh Thuy Nguyen, Soe, Z., Ou, W., Poudel, K., Choi, H., Ku, S., Yong, C., Kim, J.  
2019; 88: 448-461
- **Tailored Black Phosphorus for Erythrocyte Membrane Nanocloaking with Interleukin-1 alpha siRNA and Paclitaxel for Targeted, Durable, and Mild Combination Cancer Therapy** *THERANOSTICS*  
Ou, W., Byeon, J., Soe, Z., Kim, B., Thapa, R., Gupta, B., Poudel, B., Ku, S., Yong, C., Kim, J.  
2019; 9 (23): 6780-6796
- **Hyaluronic acid-capped compact silica-supported mesoporous titania nanoparticles for ligand-directed delivery of doxorubicin** *ACTA BIOMATERIALIA*  
Gupta, B., Poudel, B., Ruttala, H., Regmi, S., Pathak, S., Gautam, M., Jin, S., Jeong, J., Choi, H., Ku, S., Yong, C., Kim, J.  
2018; 80: 364-77
- **In situ fabrication of mesoporous silica-coated silver-gold hollow nanoshell for remotely controllable chemo-photothermal therapy via phase-change molecule as gatekeepers** *INTERNATIONAL JOURNAL OF PHARMACEUTICS*  
Poudel, B., Soe, Z., Ruttala, H., Gupta, B., Ramasamy, T., Thapa, R., Gautam, M., Ou, W., Hanh Thuy Nguyen, Jeong, J., Jin, S., Choi, H., Yong, C., et al  
2018; 548 (1): 92-103
- **Polyamino Acid Layer-by-Layer (LbL) Constructed Silica-Supported Mesoporous Titania Nanocarriers for Stimuli-Responsive Delivery of microRNA 708 and Paclitaxel for Combined Chemotherapy** *ACS APPLIED MATERIALS & INTERFACES*  
Gupta, B., Ruttala, H., Poudel, B., Pathak, S., Regmi, S., Gautam, M., Poudel, K., Sung, M., Ou, W., Jin, S., Jeong, J., Ku, S., Choi, et al  
2018; 10 (29): 24392-405
- **Polymeric microsphere-facilitated site-specific delivery of quercetin prevents senescence of pancreatic islets in vivo and improves transplantation outcomes in mouse model of diabetes** *ACTA BIOMATERIALIA*  
Pathak, S., Regmi, S., Nguyen, T., Gupta, B., Gautam, M., Yong, C., Kim, J., Son, Y., Kim, J., Park, M., Bae, Y., Park, S., Jeong, et al  
2018; 75: 287-99
- **Paclitaxel and Erlotinib-co-loaded Solid Lipid Core Nanocapsules: Assessment of Physicochemical Characteristics and Cytotoxicity in Non-small Cell Lung Cancer** *PHARMACEUTICAL RESEARCH*  
Gupta, B., Poudel, B., Regmi, S., Pathak, S., Ruttala, H., Gautam, M., An, G., Jeong, J., Choi, H., Yong, C., Kim, J.  
2018; 35 (5): 96
- **PEGylated polyaminoacid-capped mesoporous silica nanoparticles for mitochondria-targeted delivery of celastrol in solid tumors** *COLLOIDS AND SURFACES B-BIOINTERFACES*  
Choi, J., Gupta, B., Ramasamy, T., Jeong, J., Jin, S., Choi, H., Yong, C., Kim, J.  
2018; 165: 56-66
- **PEGylated thermosensitive lipid-coated hollow gold nanoshells for effective combinational chemo-photothermal therapy of pancreatic cancer** *COLLOIDS AND SURFACES B-BIOINTERFACES*  
Poudel, B., Gupta, B., Ramasamy, T., Thapa, R., Pathak, S., Oh, K., Jeong, J., Choi, H., Yong, C., Kim, J.  
2017; 160: 73-83
- **Engineered islet cell clusters transplanted into subcutaneous space are superior to pancreatic islets in diabetes** *FASEB JOURNAL*  
Pathak, S., Regmi, S., Gupta, B., Tung Thanh Pham, Yong, C., Kim, J., Yook, S., Kim, J., Park, M., Bae, Y., Jeong, J.  
2017; 31 (11): 5111-21
- **Multiple polysaccharide-drug complex-loaded liposomes: A unique strategy in drug loading and cancer targeting** *CARBOHYDRATE POLYMERS*  
Ruttala, H., Ramasamy, T., Gupta, B., Choi, H., Yong, C., Kim, J.  
2017; 173: 57-66
- **Single synchronous delivery of FK506-loaded polymeric microspheres with pancreatic islets for the successful treatment of streptozocin-induced diabetes in mice** *DRUG DELIVERY*  
Pathak, S., Regmi, S., Gupta, B., Poudel, B. K., Tung Thanh Pham, Yong, C., Kim, J., Kim, J., Park, M., Bae, Y., Yook, S., Ahn, C., Jeong, J.  
2017; 24 (1): 1350-59

- **Smart chemistry-based nanosized drug delivery systems for systemic applications: A comprehensive review** *JOURNAL OF CONTROLLED RELEASE*  
Ramasamy, T., Ruttala, H., Gupta, B., Poudel, B., Choi, H., Yong, C., Kim, J.  
2017; 258: 226-253
- **Folate receptor-targeted hybrid lipid-core nanocapsules for sequential delivery of doxorubicin and tanespimycin** *COLLOIDS AND SURFACES B-BIOINTERFACES*  
Gupta, B., Pathak, S., Poudel, B., Regmi, S., Ruttala, H., Gautam, M., Lee, J., Jeong, J., Choi, H., Yong, C., Kim, J.  
2017; 155: 83–92
- **Preparation and Optimization of Immediate Release/Sustained Release Bilayered Tablets of Loxoprofen Using Box-Behnken Design** *AAPS PHARMSCITECH*  
Tak, J., Gupta, B., Thapa, R., Woo, K., Kim, S., Go, T., Choi, Y., Choi, J., Jeong, J., Choi, H., Yong, C., Kim, J.  
2017; 18 (4): 1125-1134
- **A three-dimensional assemblage of gingiva-derived mesenchymal stem cells and NO-releasing microspheres for improved differentiation** *INTERNATIONAL JOURNAL OF PHARMACEUTICS*  
Regmi, S., Cao, J., Pathak, S., Gupta, B., Poudel, B., Pham Thanh Tung, Yook, S., Park, J., Yong, C., Kim, J., Yoo, J., Jeong, J.  
2017; 520 (1-2): 163–72
- **Development of Bioactive PEGylated Nanostructured Platforms for Sequential Delivery of Doxorubicin and Imatinib to Overcome Drug Resistance in Metastatic Tumors** *ACS APPLIED MATERIALS & INTERFACES*  
Gupta, B., Ramasamy, T., Poudel, B., Pathak, S., Regmi, S., Choi, J., Son, Y., Thapa, R., Jeong, J., Kim, J., Choi, H., Yong, C., Kim, et al  
2017; 9 (11): 9280–90
- **Preclinical and Clinical Studies Demonstrate That the Proprietary Herbal Extract DA-5512 Effectively Stimulates Hair Growth and Promotes Hair Health** *EVIDENCE-BASED COMPLEMENTARY AND ALTERNATIVE MEDICINE*  
Yu, J., Gupta, B., Park, H., Son, M., Jun, J., Yong, C., Kim, J., Kim, J.  
2017; 2017: 4395638
- **Development of polymeric irinotecan nanoparticles using a novel lactone preservation strategy** *INTERNATIONAL JOURNAL OF PHARMACEUTICS*  
Poudel, B., Gupta, B., Ramasamy, T., Thapa, R., Youn, Y., Choi, H., Yong, C., Kim, J.  
2016; 512 (1): 75-86
- **Hybrid Congregation of Islet Single Cells and Curcumin-Loaded Polymeric Microspheres as an Interventional Strategy to Overcome Apoptosis Associated with Pancreatic Islets Transplantation** *ACS APPLIED MATERIALS & INTERFACES*  
Pathak, S., Regmi, S., Gupta, B., Poudel, B. K., Tung Thanh Pham, Kim, J., Park, P., Yong, C., Kim, J., Bae, Y., Kim, S., Jeong, J.  
2016; 8 (39): 25702–13
- **Effects of Formulation Variables on the Particle Size and Drug Encapsulation of Imatinib-Loaded Solid Lipid Nanoparticles** *AAPS PHARMSCITECH*  
Gupta, B., Poudel, B., Pathak, S., Tak, J., Lee, H., Jeong, J., Choi, H., Yong, C., Kim, J.  
2016; 17 (3): 652–62
- **Preparation of High-Payload, Prolonged-Release Biodegradable Poly(lactic-co-glycolic acid)-Based Tacrolimus Microspheres Using the Single-Jet Electrospray Method** *CHEMICAL & PHARMACEUTICAL BULLETIN*  
Pathak, S., Gupta, B., Poudel, B., Tuan Hiep Tran, Regmi, S., Tung Thanh Pham, Thapa, R., Kim, M., Yong, C., Kim, J., Jeong, J.  
2016; 64 (2): 171–78
- **Liquid crystalline nanoparticles encapsulating cisplatin and docetaxel combination for targeted therapy of breast cancer** *BIOMATERIALS SCIENCE*  
Thapa, R., Choi, J., Gupta, B., Ramasamy, T., Poudel, B., Ku, S., Youn, Y., Choi, H., Yong, C., Kim, J.  
2016; 4 (9): 1340-1350
- **CO-AGGREGATION OF CURCUMIN LOADED POLY (LACTIC-CO-GLYCOLIC ACID) MICROSPHERES WITH PANCREATIC ISLET CELLS INTO HETEROSPHEROIDS; A POTENTIAL STRATEGY TO DELIVER DRUGS AND BIOLOGICAL AGENTS TO THE ISLETS OF LANGERHANS.**  
Jeong, J., Pathak, S., Gupta, B., Regmi, S., Pham Thanh Tung, Yong, C., Kim, J., Jeong, J.  
LIPPINCOTT WILLIAMS & WILKINS.2015: S176
- **Co-aggregation of curcumin loaded poly (lactic-co-glycolic acid) microspheres with pancreatic islet cells into heterospheroids; a potential strategy to deliver drugs and biological agents to the islets of langerhans**  
Jeong, J., Pathak, S., Gupta, B., Regmi, S., Pham Thanh Tung, Yong, C., Kim, J., Jeong, J.  
WILEY-BLACKWELL.2015: S107

- **Multilayer-Coated Liquid Crystalline Nanoparticles for Effective Sorafenib Delivery to Hepatocellular Carcinoma** *ACS APPLIED MATERIALS & INTERFACES*  
Thapa, R., Choi, J., Poudel, B. K., Tran Tuan Hiep, Pathak, S., Gupta, B., Choi, H., Yong, C., Kim, J.  
2015; 7 (36): 20360–68
- **Modulation of Pharmacokinetic and Cytotoxicity Profile of Imatinib Base by Employing Optimized Nanostructured Lipid Carriers** *PHARMACEUTICAL RESEARCH*  
Gupta, B., Poudel, B., Tuan Hiep Tran, Pradhan, R., Cho, H., Jeong, J., Shin, B., Choi, H., Yong, C., Kim, J.  
2015; 32 (9): 2912-2927