

Stanford



Shiva Pathak

Postdoctoral Scholar, Bone Marrow Transplantation

CONTACT INFORMATION

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Bio

BIO

Research interests: Pancreatic islet transplantation, Mesenchymal stem cell transplantation, Transplant tolerance, Biomaterials for drug and cell delivery

HONORS AND AWARDS

- Young Scientist Investigator Award, The Transplantation Society (TTS) and Cell Transplant and Regenerative Medicine Society (CTRMS) (2019)
- Yeungnam University-Foreign Student Scholarship, Yeungnam University (2014)
- Gold Medal Award, Institute of Medicine, Tribhuvan University (2012)
- Mahatma Gandhi Scholarship, Embassy of India in Nepal (2005)

PROFESSIONAL EDUCATION

- MS/PhD, Yeungnam University , Pharmacy (2019)
- Bachelor, Institute of Medicine, Tribhuvan University , Pharmacy (2012)

STANFORD ADVISORS

- Everett Meyer, Postdoctoral Faculty Sponsor
- Everett Meyer, Postdoctoral Research Mentor

Publications

PUBLICATIONS

- **Particulate-Based Single-Dose Local Immunosuppressive Regimen for Inducing Tolerogenic Dendritic Cells in Xenogeneic Islet Transplantation.** *Advanced healthcare materials*
Pathak, S., Acharya, S., Regmi, S., Shrestha, P., You, Z., Bae, Y. K., Park, M. H., Yook, S., Kim, J., Park, S. Y., Jeong, D., Yong, C. S., Kim, et al
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- **Enhanced viability and function of mesenchymal stromal cell spheroids is mediated via autophagy induction.** *Autophagy*
Regmi, S., Raut, P. K., Pathak, S., Shrestha, P., Park, P., Jeong, J.
2020
- **Tregs and Mixed Chimerism as Approaches for Tolerance Induction in Islet Transplantation.** *Frontiers in immunology*
Pathak, S., Meyer, E. H.

2020; 11: 612737

- **Mesenchymal Stem Cell Capping on ECM-Anchored Caspase Inhibitor-Loaded PLGA Microspheres for Intraperitoneal Injection in DSS-Induced Murine Colitis** *SMALL*
Pathak, S., Regmi, S., Shrestha, P., Choi, I., Doh, K., Jeong, J.
2019; 15 (23): e1901269
- **Inflammation-triggered local drug release ameliorates colitis by inhibiting dendritic cell migration and Th1/Th17 differentiation.** *Journal of controlled release : official journal of the Controlled Release Society*
Regmi, S. n., Pathak, S. n., Nepal, M. R., Shrestha, P. n., Park, J. n., Kim, J. O., Yong, C. S., Choi, D. Y., Chang, J. H., Jeong, T. C., Orive, G. n., Yook, S. n., Jeong, et al
2019
- **Curcumin-laden ECM-mimicking microfibers assemble with mesenchymal stem cells to generate heterospheroids and enhance cell viability and function** *JOURNAL OF INDUSTRIAL AND ENGINEERING CHEMISTRY*
Shrestha, P., Pathak, S., Regmi, S., Narayanan, K., Nguyen, T., Yook, S., Kim, J., Jeong, J.
2022; 115: 500-509
- **Hypoxia-Mediated ROS Amplification Triggers Mitochondria-Mediated Apoptotic Cell Death via PD-L1/ROS-Responsive, Dual-Targeted, Drug-Laden Thioketal Nanoparticles.** *ACS applied materials & interfaces*
Banstola, A., Poudel, K., Pathak, S., Shrestha, P., Kim, J. O., Jeong, J., Yook, S.
2021
- **Tregs and Mixed Chimerism as Approaches for Tolerance Induction in Islet Transplantation** *FRONTIERS IN IMMUNOLOGY*
Pathak, S., Meyer, E. H.
2021; 11
- **Heterospheroid formation improves therapeutic efficacy of mesenchymal stem cells in murine colitis through immunomodulation and epithelial regeneration.** *Biomaterials*
Regmi, S. n., Seo, Y. n., Ahn, J. S., Pathak, S. n., Acharya, S. n., Nguyen, T. T., Yook, S. n., Sung, J. H., Park, J. B., Kim, J. O., Young, C. S., Kim, H. S., Jeong, et al
2021; 271: 120752
- **Single-dose intraperitoneal delivery of FK506-encapsulated polymeric microspheres for the alleviation of murine colitis** *JOURNAL OF INDUSTRIAL AND ENGINEERING CHEMISTRY*
Pathak, S., Regmi, S., Nepal, M., Shrestha, P., Choi, J., Yook, S., Jeong, J.
2020; 91: 121–28
- **Photoimmunotherapy with cetuximab-conjugated gold nanorods reduces drug resistance in triple negative breast cancer spheroids with enhanced infiltration of tumor-associated macrophages.** *Journal of controlled release : official journal of the Controlled Release Society*
Emami, F., Pathak, S., Nguyen, T. T., Shrestha, P., Maharjan, S., Kim, J. O., Jeong, J. H., Yook, S.
2020
- **Local release of NECA (5'-(N-ethylcarboxamido)adenosine) from implantable polymeric sheets for enhanced islet revascularization in extrahepatic transplantation site.** *Journal of controlled release : official journal of the Controlled Release Society*
Nguyen, T. T., Emami, F., Yook, S., Nguyen, H. T., Pham, T. T., Pathak, S., Regmi, S., Kim, J. O., Yong, C. S., Kim, J., Jeong, J.
2020
- **Intraportally delivered stem cell spheroids localize in the liver and protect hepatocytes against GalN/LPS-induced fulminant hepatic toxicity.** *Stem cell research & therapy*
Regmi, S., Pathak, S., Thanh, T. P., Nguyen, T. T., Sung, J., Yook, S., Kim, J. O., Yong, C. S., Choi, I., Doh, K., Park, P., Park, J., Seo, et al
2019; 10 (1): 230
- **Targeted delivery of doxorubicin for the treatment of bone metastasis from breast cancer using alendronate-functionalized graphene oxide nanosheets** *JOURNAL OF INDUSTRIAL AND ENGINEERING CHEMISTRY*
Tung Thanh Pham, Hanh Thuy Nguyen, Cao Dai Phung, Pathak, S., Regmi, S., Ha, D., Kim, J., Yong, C., Kim, S., Choi, J., Yook, S., Park, J., Jeong, J.
2019; 76: 310–17
- **Immunoisolation of pancreatic islets via thin-layer surface modification**
Pathak, S., Tung Thanh Pham, Jeong, J., Byun, Y.
ELSEVIER SCIENCE BV.2019: 176–93

- **Mesenchymal stem cell therapy for the treatment of inflammatory diseases: Challenges, opportunities, and future perspectives.** *European journal of cell biology*
Regmi, S. n., Pathak, S. n., Kim, J. O., Yong, C. S., Jeong, J. H.
2019
- **Design and manufacture of 3D cell culture plate for mass production of cell-spheroids.** *Scientific reports*
Lee, D. n., Pathak, S. n., Jeong, J. H.
2019; 9 (1): 13976
- **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
- **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
- **Tissue adhesive FK506-loaded polymeric nanoparticles for multi-layered nano-shielding of pancreatic islets to enhance xenograft survival in a diabetic mouse model** *BIOMATERIALS*
Tung Thanh Pham, Tiep Tien Nguyen, Pathak, S., Regmi, S., Hanh Thuy Nguyen, Tuan Hiep Tran, Yong, C., Kim, J., Park, P., Park, M., Bae, Y., Choi, J., Byun, Y., Ahn, C., Yook, et al
2018; 154: 182–96
- **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
- **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
- **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
- **A three-dimensional assemblage of gingiva-derived mesenchymal stem cells and NO-releasing microspheres for improved differentiation** *INTERNATIONAL JOURNAL OF PHARMACEUTICS*
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- **Development of Bioactive PEGylated Nanostructured Platforms for Sequential Delivery of Doxorubicin and Imatinib to Overcome Drug Resistance in Metastatic Tumors** *ACS APPLIED MATERIALS & INTERFACES*
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- **In Vitro Study of Adsorption Kinetics of Dextromethorphan Syrup onto Activated Charcoal in Simulated Gastric and Intestinal Fluids** *JOURNAL OF CHEMISTRY*
Regmi, S., Regmi, B., Shyaula, S., Pathak, S., Bhattarai, B., Sah, S.
2017
- **Potential differentiation ability of gingiva originated human mesenchymal stem cell in the presence of tacrolimus** *SCIENTIFIC REPORTS*
Ha, D., Pathak, S., Yong, C., Kim, J., Jeong, J., Park, J.
2016; 6: 34910
- **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 Electro Spray 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
- **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