Stanford



Shreya Gupta

Postdoctoral Scholar, Cardiovascular Medicine

NIH Biosketch available Online

Bio

STANFORD ADVISORS

- Paul Cheng, Postdoctoral Faculty Sponsor

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

I am a biomedical researcher focused on understanding the molecular mechanisms governing vascular smooth muscle cell (SMC) behavior in cardiovascular and metabolic diseases. My work investigates how signaling pathways, including Notch3 and Thrombospondin-1, regulate SMC phenotypic switching, fibrous cap stability, and plaque vulnerability in atherosclerosis, with the goal of identifying novel therapeutic targets to prevent heart attacks and strokes.

Publications

PUBLICATIONS

- **Cellular and Molecular Mechanisms of VSMC Phenotypic Switching in Type 2 Diabetes** *CELLS*
  Gupta, S., Hernandez, G., Raman, P.
  2025; 14 (17)
- **Cognitive dysfunction and increased phosphorylated tau are associated with reduced O-GlcNAc signaling in an aging mouse model of metabolic syndrome.** *Journal of neuroscience research*
  Gupta, S., Jinka, S. K., Khanal, S., Bhavnani, N., Almashhori, F., Lallo, J., Mathias, A., Al-Rhayyel, Y., Herman, D., Holden, J. G., Fleming, S. M., Raman, P.
  2023; 101 (8): 1324-1344
- **Deletion of Smooth Muscle O-GlcNAc Transferase Prevents Development of Atherosclerosis in Western Diet-Fed Hyperglycemic ApoE-/- Mice In Vivo.** *International journal of molecular sciences*
  Khanal, S., Bhavnani, N., Mathias, A., Lallo, J., Gupta, S., Ohanyan, V., Ferrell, J. M., Raman, P.
  2023; 24 (9)
- **Sex-specific differences in atherosclerosis, thrombospondin-1, and smooth muscle cell differentiation in metabolic syndrome versus non-metabolic syndrome mice.** *Frontiers in cardiovascular medicine*
  Gupta, S., Khanal, S., Bhavnani, N., Mathias, A., Lallo, J., Kiriakou, A., Ferrell, J., Raman, P.
  2022; 9: 1020006
- **TSP-1 (Thrombospondin-1) Deficiency Protects ApoE-/- Mice Against Leptin-Induced Atherosclerosis.** *Arteriosclerosis, thrombosis, and vascular biology*
  Ganguly, R., Khanal, S., Mathias, A., Gupta, S., Lallo, J., Sahu, S., Ohanyan, V., Patel, A., Storm, K., Datta, S., Raman, P.
  2021; 41 (2): e112-e127

- **Protein Chimerization: A New Frontier for Engineering Protein Therapeutics with Improved Pharmacokinetics** *JOURNAL OF PHARMACOLOGY AND EXPERIMENTAL THERAPEUTICS*
  Iyengar, A., Gupta, S., Jawalekar, S., Pande, A. H.
  2019; 370 (3): 703-714