Stanford

Amit Manhas

Instructor, Cardiovascular Institute

Bio

BIO

Dr. Amit Manhas is an instructor at the Stanford Cardiovascular Institute, specializing in cardiovascular disease modeling, cardio-oncology, and stem cell biology. Dr. Manhas earned his PhD in Biological Sciences from the Pharmacology Division at the CSIR-Central Drug Research Institute in Lucknow, India, where his doctoral research focused on cardioprotective mechanisms in ischemic injury.

ACADEMIC APPOINTMENTS

- Instructor, Cardiovascular Institute
- Member, Maternal & Child Health Research Institute (MCHRI)

HONORS AND AWARDS

- Career Development Award, American Heart Association (2025-)
- Best Poster Award, Stanford-Arizona-Morehouse-UAB Cardiovascular Research Symposium (August 15-16, 2024)
- Postdoctoral Fellowship, American Heart Association (2023-2024)
- Excellence In Research Publication, CSIR-Central Drug Research Institute, Lucknow, India (2020)
- Senior Research Fellowship, Indian Council of Medical Research, New Delhi, India (2016-2019)
- Best Poster presentation award, NIMS University (2010)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Member, American Heart Association, AHA (2021 - present)

PROFESSIONAL EDUCATION

- Bachelors of Pharmacy, IK Gujral Punjab Technical University, Punjab, India (2009)
- Masters in Pharmacy, NIMS University, Jaipur, India (2011)
- Ph.D, AcSIR, New Delhi, India (2020)

LINKS

- LinkedIn: https://www.linkedin.com/in/amit-manhas-phd-0b3b7843
- Google Scholar: https://scholar.google.co.in/citations?user=D7y2cGUAAAAJ&hl=en

Publications

PUBLICATIONS

- **Profiling Immune-Independent Response to Immune Checkpoint Inhibitors on Stem Cell-Derived Cardiomyocytes, Organoids, and Mouse Models.** *Circulation*
  Thomas, D., Manhas, A., Liu, Y., Venkateshappa, R., Belbachir, N., Zhao, S. R., Juguilon, C., Chen, I. Y., Moslehi, J., Sayed, N., Wu, J. C.
  2026; 153 (2): 132-135

- **Multiscale profiling of tyrosine kinase inhibitor cardiotoxicity reveals mechanosensitive ion channel PIEZO1 as cardioprotective.** *Science translational medicine*
  Manhas, A., Liu, Y., Noishiki, C., Wu, D., Tripathi, D., Mirza, S., Thomas, D., Liu, L., Guha, A., Nguyen, P. K., Chen, I. Y., Chitalia, V., Cheng, et al
  2025; 17 (829): eadv9403

- **Inhibition of CXCL10 and IFN-γ ameliorates myocarditis in preclinical models of SARS-CoV-2 mRNA vaccination.** *Science translational medicine*
  Cao, X., Manhas, A., Chen, Y. I., Caudal, A., Mondejar-Parreño, G., Zhu, W., Liu, W., Kong, X., Zeng, W., Liu, L., Zhao, S. R., Jahng, J. W., Utz, et al
  2025; 17 (828): eadq0143

- **CRISPRi/a screens in human iPSC-cardiomyocytes identify glycolytic activation as a druggable target for doxorubicin-induced cardiotoxicity.** *Cell stem cell*
  Liu, C., Shen, M., Liu, Y., Manhas, A., Zhao, S. R., Zhang, M., Belbachir, N., Ren, L., Zhang, J. Z., Caudal, A., Nishiga, M., Thomas, D., Zhang, et al
  2024

- **CCL2-mediated endothelial injury drives cardiac dysfunction in long COVID.** *Nature cardiovascular research*
  Thomas, D., Noishiki, C., Gaddam, S., Wu, D., Manhas, A., Liu, Y., Tripathi, D., Kathale, N., Adkar, S. S., Garhyan, J., Liu, C., Xu, B., Ross, et al
  2024; 3 (10): 1249-1265

- **Cardiovascular Toxicity in Cancer Therapy: Protecting the Heart while Combating Cancer.** *Current cardiology reports*
  Manhas, A., Tripathi, D., Thomas, D., Sayed, N.
  2024

- **Harnessing iPSCs to Dissect Causality in Anthracycline-Induced Cardiotoxicity: All That Fits Are Not Hits.** *JACC. CardioOncology*
  Thomas, D., Manhas, A., Sayed, N.
  2024; 6 (1): 51-54

- **Involvement of HIF1α/Reg protein in the regulation of HMGB3 in myocardial infarction.** *Vascular pharmacology*
  Manhas, A., Tripathi, D., Jagavelu, K.
  2023; 152: 107197

- **Fabrication, characterization and in vivo assessment of cardiogel loaded chitosan patch for myocardial regeneration.** *International journal of biological macromolecules*
  Sharma, V., Manhas, A., Gupta, S., Dikshit, M., Jagavelu, K., Verma, R. S.
  2022

- **Cannabinoid receptor 1 antagonist genistein attenuates marijuana-induced vascular inflammation.** *Cell*
  Wei, T. T., Chandy, M., Nishiga, M., Zhang, A., Kumar, K. K., Thomas, D., Manhas, A., Rhee, S., Justesen, J. M., Chen, I. Y., Wo, H. T., Khanamiri, S., Yang, et al
  2022

- **Proinflammatory Effect of Endothelial Microparticles Is Mitochondria Mediated and Modulated Through MAPKAPK2 (MAPK-Activated Protein Kinase 2) Leading to Attenuation of Cardiac Hypertrophy.** *Arteriosclerosis, thrombosis, and vascular biology*
  Tripathi, D., Biswas, B., Manhas, A., Singh, A., Goyal, D., Gaestel, M., Jagavelu, K.
  2019; 39 (6): 1100-1112

- **Inhibition of fatty acid synthase is protective in pulmonary hypertension.** *British journal of pharmacology*
  Singh, N., Manhas, A., Kaur, G., Jagavelu, K., Hanif, K.
  2016; 173 (12): 2030-45

- **Non-carbonyl Curcuma longa [NCCL] protects the heart from myocardial ischemia/reperfusion injury by reducing endothelial microparticle mediated inflammation in rats** *RSC ADVANCES*

Manhas, A., Tripathi, D., Biswas, B., Ahmad, H., Goyal, D., Dwivedi, A., Dikshit, M., Jagavelu, K.
2016; 6 (60): 54938-54948

- **Curcuma oil reduces endothelial cell-mediated inflammation in postmyocardial ischemia/reperfusion in rats.** *Journal of cardiovascular pharmacology*
  Manhas, A., Khanna, V., Prakash, P., Goyal, D., Malasoni, R., Naqvi, A., Dwivedi, A. K., Dikshit, M., Jagavelu, K.
  2014; 64 (3): 228-36
- **Generation of an induced pluripotent stem cell line from a patient with Loeys-Dietz syndrome.** *Stem cell research*
  Liu, L., Manhas, A., Noishiki, C., Wu, D., Tripathi, D., Turbes, N., Sallam, K., Lee, J. T., Sayed, N.
  2026; 94: 103981
- **Targeting the CXCL10-IFN-γ Axis to Prevent Myocardial Injury Following mRNA Vaccination**
  Nishiga, M., Cao, X., Manhas, A., Caudal, A., Wu, J.
  LIPPINCOTT WILLIAMS & WILKINS.2025
- **Generation of an induced pluripotent stem cell line from a patient with Varicose veins.** *Stem cell research*
  Noishiki, C., Manhas, A., Adkar, S. S., Tripathi, D., Wu, D., Sadat, S., Liu, L., Sallam, K., Leeper, N. J., Fukaya, E., Sayed, N.
  2025; 89: 103850
- **Generation of an induced pluripotent stem cell line from a malignant melanoma patient who developed the immune checkpoint inhibitor-related myasthenia gravis, myositis, and myocarditis overlap syndrome.** *Stem cell research*
  Huynh, D. T., Noishiki, C., Lai, J., Yarahmadi, P., Le, T., Tripathi, D., Tacco, I. R., Manhas, A., Sallam, K., Chen, I. Y., Sayed, N., Nguyen, P. K.
  2025; 87: 103797
- **Exploration of Underlying Mechanisms of Vascular Ehlers-Danlos Syndrome in Patients' iPSCs-Derived Endothelial Cells**
  Liu, L., Wu, D., Bharucha, N., Turbes, N., Noishiki, C., Manhas, A., Tripathi, D., Adkar, S., Lee, J., Fukaya, E., Leeper, N., Karakikes, I., Sayed, et al
  LIPPINCOTT WILLIAMS & WILKINS.2025
- **Characterization of iPSC lines from dilated cardiomyopathy patients carrying a mutation in the RBM20 gene**
  Rajasekaran, S., Manhas, A., Sayed, N., Wu, J.
  LIPPINCOTT WILLIAMS & WILKINS.2025
- **Generation of induced pluripotent stem cell line from a patient with long COVID.** *Stem cell research*
  Wu, D., Manhas, A., Noishiki, C., Tripathi, D., Liu, L., Turbes, N., Thomas, D., Sallam, K., Lee, J. T., Sayed, N.
  2025; 83: 103652
- **Generation of two iPSC lines from dilated cardiomyopathy patients with pathogenic variants in the SCN5A gene.** *Stem cell research*
  Dexheimer, R., Manhas, A., Wu, D., Tripathi, D., Yu Chan, S., Li, J., Yu, R., Sayed, N., Wu, J. C., Sallam, K.
  2024; 80: 103498
- **Generation of two iPSC lines from vascular Ehlers-Danlos Syndrome (vEDS) patients carrying a missense mutation in COL3A1 gene.** *Stem cell research*
  Manhas, A., Tripathi, D., Noishiki, C., Wu, D., Liu, L., Sallam, K., Lee, J. T., Fukaya, E., Sayed, N.
  2024; 79: 103485
- **Generation of induced pluripotent stem cell line from a patient suffering from arterial calcification due to deficiency of CD73 (ACDC).** *Stem cell research*
  Tripathi, D., Manhas, A., Noishiki, C., Wu, D., Adkar, S., Sallam, K., Fukaya, E., Leeper, N. J., Sayed, N.
  2023; 75: 103285
- **Stepwise Generation of Human Induced Pluripotent Stem Cell-Derived Cardiac Pericytes to Model Coronary Microvascular Dysfunction.** *Circulation*
  Shen, M., Liu, C., Zhao, S. R., Manhas, A., Sundaram, L., Ameen, M., Wu, J. C.
  2023; 147 (6): 515-518
- **SGLT2 inhibitor ameliorates endothelial dysfunction associated with the common ALDH2 alcohol flushing variant.** *Science translational medicine*
  Guo, H., Yu, X., Liu, Y., Paik, D. T., Justesen, J. M., Chandy, M., Jahng, J. W., Zhang, T., Wu, W., Rwere, F., Zhao, S. R., Pokhrel, S., Shivnaraine, et al
  2023; 15 (680): eabp9952

- **Generation of two induced pluripotent stem cell lines carrying the phospholamban R14del mutation for modeling ARVD/C.** *Stem cell research*
  Vera, C. D., Manhas, A., Shenoy, S. P., Wheeler, M. T., Sallam, K., Wu, J. C.
  2022; 63: 102834

- **Engineered Nanoparticle-Protein Interactions Influence Protein Structural Integrity and Biological Significance.** *Nanomaterials (Basel, Switzerland)*
  Jaiswal, S., Manhas, A., Pandey, A. K., Priya, S., Sharma, S. K.
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- **Generation of two iPSC lines from hypertrophic cardiomyopathy patients carrying MYBPC3 and PRKAG2 variants.** *Stem cell research*
  Manhas, A., Jahng, J. W., Vera, C. D., Shenoy, S. P., Knowles, J. W., Wu, J. C.
  2022; 61: 102774

- **Xylocarpus moluccensis Fruit Fraction Rescues Cardiac Hypertrophy by Improving Angiogenesis and Regulating NF-κB-Mediated Inflammation** *Xylocarpus moluccensis Fruit Fraction Rescues Cardiac Hypertrophy by Improving Angiogenesis and Regulating NF-κB-Mediated Inflammation*
  Manhas, A., Goyal, D., Biswas, B., Tripathi, D., Yadav, P., Singh, A., Krishna, S., Tadigoppula, N., Dikshit, M., Jagavelu, K.
  2022; 18 (78): 286-295

- **Injectable hydrogel for co-delivery of 5-azacytidine in zein protein nanoparticles with stem cells for cardiac function restoration.** *International journal of pharmaceutics*
  Sharma, V., Dash, S. K., Manhas, A., Radhakrishnan, J., Jagavelu, K., Verma, R. S.
  2021; 603: 120673

- **Synthetic FXR agonist GW4064 is a modulator of multiple G protein-coupled receptors.** *Molecular endocrinology (Baltimore, Md.)*
  Singh, N., Yadav, M., Singh, A. K., Kumar, H., Dwivedi, S. K., Mishra, J. S., Gurjar, A., Manhas, A., Chandra, S., Yadav, P. N., Jagavelu, K., Siddiqi, M. I., Trivedi, et al
  2014; 28 (5): 659-73