

Stanford



Maya Kumar

Assistant Professor (Research) of Pediatrics (Pulmonary Medicine)
Pediatrics - Pulmonary Medicine

CONTACT INFORMATION

- **Administrative Contact**

Meena Kakani - Administrative

Email mkakani@stanford.edu

Bio

ACADEMIC APPOINTMENTS

- Assistant Professor (Research), Pediatrics - Pulmonary Medicine
- Member, Cardiovascular Institute
- Member, Maternal & Child Health Research Institute (MCHRI)

ADMINISTRATIVE APPOINTMENTS

- Esther Ehrman Lazard Faculty Scholar, School of Medicine, (2022-2025)

HONORS AND AWARDS

- The Esther Ehrman Lazard Faculty Scholar, Stanford University (2023)

Publications

PUBLICATIONS

- **Excessive Postnatal Smooth Muscle Differentiation in a Lung Specific Model of TBX4-related Pulmonary Hypertension.** *JCI insight*
Steffes, L. C., Chiles, K. A., Masud, S. R., Rahman, A., Dawson, M., Galambos, C., Kumar, M. E., Arora, R.
2026
- **Stem cell control in the lung by an autocrine injury-activated Igf complex.** *Science (New York, N.Y.)*
Zhang, Y., Ouadah, Y., Liu, Y., Kumar, M. E., Morck, M. M., Krasnow, M. A.
2026; 392 (6795): eadt1310
- **Stem cell control and cancer initiation by an autocrine, injury-activated Igf complex.** *bioRxiv : the preprint server for biology*
Zhang, Y., Ouadah, Y., Liu, Y., Kumar, M. E., Morck, M. M., Krasnow, M. A.
2026
- **In Vivo mRNA Delivery to the Lung Vascular Endothelium by Dicationic Charge-Altering Releasable Transporters.** *Journal of the American Chemical Society*
AbdElwakil, M. M., Ni, J., Ramsay-Burrough, S., Hurst, P. J., McClellan, R. L., Khasnavis, S. R., Jia, Y., Masud, S. R., Blake, T. R., Sallets, A., Haabeth, O. A., Sagiv-Barfi, I., Czerwinski, et al
2025
- **Why some and not others? Understanding vascular phenotypes in genetic developmental lung diseases.** *Current opinion in pediatrics*

- Steffes, L. C., Kumar, M. E., Varghese, N. P.
2025
- **Repetitive Schistosoma Exposure Causes Perivascular Lung Fibrosis and Persistent Pulmonary Hypertension.** *Clinical science (London, England : 1979)*
Kumar, R., Lee, M. H., Kassa, B., Fonseca Balladares, D. C., Mickael, C., Sanders, L., Andruska, A., Kumar, M., Spiekerkoetter, E., Bandeira, A., Stenmark, K. R., Tuder, R. M., Graham, et al
2023
 - **von Willebrand Factor Is Produced Exclusively by Endothelium, Not Neointima, in Occlusive Vascular Lesions in Both Pulmonary Hypertension and Atherosclerosis.** *Circulation*
Steffes, L. C., Cheng, P., Quertermous, T., Kumar, M. E.
2022; 146 (5): 429-431
 - **The Tabula Sapiens: A multiple-organ, single-cell transcriptomic atlas of humans.** *Science (New York, N.Y.)*
Jones, R. C., Karkanias, J., Krasnow, M. A., Pisco, A. O., Quake, S. R., Salzman, J., Yosef, N., Bulthaupt, B., Brown, P., Harper, W., Hemenez, M., Ponnusamy, R., Salehi, et al
2022; 376 (6594): eabl4896
 - **Shunt-type plexiform lesions identified in the Sugem5416/Hypoxia rat model of pulmonary arterial hypertension using SPCT.** *The European respiratory journal*
van der Have, O., Westoo, C., Ahrne, F., Tian, X., Ichimura, K., Dreier, T., Norvik, C., Kumar, M. E., Spiekerkoetter, E., Tran-Lundmark, K.
2022
 - **Molecular hallmarks of heterochronic parabiosis at single-cell resolution.** *Nature*
Palovics, R., Keller, A., Schaum, N., Tan, W., Fehlmann, T., Borja, M., Kern, F., Bonanno, L., Calcuttawala, K., Webber, J., McGeever, A., Tabula Muris Consortium, Luo, J., et al
2022
 - **Cell types of origin of the cell-free transcriptome.** *Nature biotechnology*
Vorperian, S. K., Moufarrej, M. N., Tabula Sapiens Consortium, Quake, S. R., Jones, R. C., Karkanias, J., Krasnow, M., Pisco, A. O., Quake, S. R., Salzman, J., Yosef, N., Bulthaupt, B., Brown, P., et al
2022
 - **Chronic Daily House Dust Mite Exposure in Mice is an Effective Model to Quantify the Effect of Pharmacologic Agents on Discrete Stages of Artery Remodeling in Pulmonary Hypertension.** *Bio-protocol*
Steffes, L. C., Kumar, M. E.
2022; 12 (1): e4273
 - **RNA splicing programs define tissue compartments and cell types at single-cell resolution** *ELIFE*
Olivieri, J., Dehghannasiri, R., Wang, P. L., Jang, S., de Morree, A., Tan, S. Y., Ming, J., Wu, A., Consortium, T., Quake, S. R., Krasnow, M. A., Salzman, J.
2021; 10
 - **Ageing hallmarks exhibit organ-specific temporal signatures.** *Nature*
Schaum, N. n., Lehallier, B. n., Hahn, O. n., Pálovics, R. n., Hosseinzadeh, S. n., Lee, S. E., Sit, R. n., Lee, D. P., Losada, P. M., Zardeneta, M. E., Fehlmann, T. n., Webber, J. T., McGeever, et al
2020
 - **A Notch3-Marked Subpopulation of Vascular Smooth Muscle Cells is the Cell of Origin for Occlusive Pulmonary Vascular Lesions.** *Circulation*
Steffes, L. C., Froistad, A. A., Andruska, A. n., Boehm, M. n., McGlynn, M. n., Zhang, F. n., Zhang, W. n., Hou, D. n., Tian, X. n., Miquerol, L. n., Nadeau, K. n., Metzger, R. J., Spiekerkoetter, et al
2020
 - **A single-cell transcriptomic atlas characterizes ageing tissues in the mouse.** *Nature*
2020
 - **Single-cell transcriptomics of 20 mouse organs creates a Tabula Muris.** *Nature*
2018; 562 (7727): 367–72

- **Transcription factor TBX4 regulates myofibroblast accumulation and lung fibrosis** *JOURNAL OF CLINICAL INVESTIGATION*
Xie, T., Liang, J., Liu, N., Huan, C., Zhang, Y., Liu, W., Kumar, M., Xiao, R., D'Armiento, J., Metzger, D., Chambon, P., Papaioannou, V. E., Stripp, et al
2016; 126 (8): 3063-3079
- **Defining a mesenchymal progenitor niche at single-cell resolution** *SCIENCE*
Kumar, M. E., Bogard, P. E., Espinoza, F. H., Menke, D. B., Kingsley, D. M., Krasnow, M. A.
2014; 346 (6211): 827-?
- **miR-142-3p balances proliferation and differentiation of mesenchymal cells during lung development** *DEVELOPMENT*
Carraro, G., Shrestha, A., Rostkivius, J., Contreras, A., Chao, C., El Agha, E., MacKenzie, B., Dilai, S., Guidolin, D., Taketo, M., Guenther, A., Kumar, M. E., Seeger, et al
2014; 141 (6): 1272–U180
- **Molecular determinants of lung development.** *Annals of the American Thoracic Society*
Morrisey, E. E., Cardoso, W. V., Lane, R. H., Rabinovitch, M., Abman, S. H., Ai, X., Albertine, K. H., Bland, R. D., Chapman, H. A., Checkley, W., Epstein, J. A., Kintner, C. R., Kumar, et al
2013; 10 (2): S12-6
- **Radial Construction of an Arterial Wall** *DEVELOPMENTAL CELL*
Greif, D. M., Kumar, M., Lighthouse, J. K., Hum, J., An, A., Ding, L., Red-Horse, K., Espinoza, F. H., Olson, L., Offermanns, S., Krasnow, M. A.
2012; 23 (3): 482-493