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Maya Kumar

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CONTACT INFORMATION

- **Administrative Contact**

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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.
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- **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
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- **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.)*
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- **Shunt-type plexiform lesions identified in the Sugen5416/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*
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- **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.
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- **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.
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  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
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- **A single-cell transcriptomic atlas characterizes ageing tissues in the mouse.** *Nature*
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- **Single-cell transcriptomics of 20 mouse organs creates a Tabula Muris.** *Nature*
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- **Transcription factor TBX4 regulates myofibroblast accumulation and lung fibrosis** *JOURNAL OF CLINICAL INVESTIGATION*
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- **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.
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- **miR-142-3p balances proliferation and differentiation of mesenchymal cells during lung development** *DEVELOPMENT*
  Carraro, G., Shrestha, A., Rostkovius, J., Contreras, A., Chao, C., El Agha, E., MacKenzie, B., Dilai, S., Guidolin, D., Taketo, M., Guenther, A., Kumar, M. E., Seeger, et al
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- **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*
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