

Stanford



Robert Wirka, MD

Instructor, Medicine - Cardiovascular Medicine

Bio

ACADEMIC APPOINTMENTS

- Instructor, Medicine - Cardiovascular Medicine

HONORS AND AWARDS

- Irvine H. Page Young Investigator Research Award, American Heart Association / ATVB (2019)
- Career Development Award, American Heart Association (2018)
- Gerald M. Reaven Basic Science Award, Division of Cardiology, Stanford University (2016)
- National Research Service Award (F32), National Institutes of Health (2015)
- Floyd Rector Basic Science Research Award, Department of Medicine, University of California San Francisco (2012)
- Resident Research Award, UCSF Clinical & Translational Science Institute (2011)
- Howard Hughes Medical Fellowship Award, Howard Hughes Medical Institute (2007)

PROFESSIONAL EDUCATION

- Cardiology Fellowship, Stanford University (2016)
- Internal Medicine Residency, University of California, San Francisco (2013)
- MD, Case Western Reserve University School of Medicine (2010)

Publications

PUBLICATIONS

- **PCSK6 Is a Key Protease in the Control of Smooth Muscle Cell Function in Vascular Remodeling.** *Circulation research*
Rykaczewska, U., Suur, B. E., Rohl, S., Razuvaev, A., Lengquist, M., Sabater-Lleal, M., van der Laan, S. W., Miller, C. L., Wirka, R. C., Kronqvist, M., Gonzalez Diez, M., Vesterlund, M., Gillgren, et al
2020
- **Pro-efferocytic nanoparticles are specifically taken up by lesional macrophages and prevent atherosclerosis.** *Nature nanotechnology*
Flores, A. M., Hosseini-Nassab, N., Jarr, K. U., Ye, J., Zhu, X., Wirka, R., Koh, A. L., Tsantilas, P., Wang, Y., Nanda, V., Kojima, Y., Zeng, Y., Lotfi, et al
2020
- **Genomic profiling of human vascular cells identifies TWIST1 as a causal gene for common vascular diseases.** *PLoS genetics*
Nurnberg, S. T., Guerraty, M. A., Wirka, R. C., Rao, H. S., Pjanic, M., Norton, S., Serrano, F., Perisic, L., Elwyn, S., Pluta, J., Zhao, W., Testa, S., Park, et al
2020; 16 (1): e1008538
- **Coronary Disease Associated Gene TCF21 Inhibits Smooth Muscle Cell Differentiation by Blocking the Myocardin-Serum Response Factor Pathway.** *Circulation research*
Nagao, M., Lyu, Q., Zhao, Q., Wirka, R. C., Bagga, J., Nguyen, T., Cheng, P., Kim, J. B., Pjanic, M., Miano, J. M., Quertermous, T.

2019

- **Atheroprotective roles of smooth muscle cell phenotypic modulation and the TCF21 disease gene as revealed by single-cell analysis.** *Nature medicine*
Wirka, R. C., Wagh, D., Paik, D. T., Pjanic, M., Nguyen, T., Miller, C. L., Kundu, R., Nagao, M., Collier, J., Koyano, T. K., Fong, R., Woo, Y. J., Liu, et al
2019
- **TCF21 and AP-1 interact through epigenetic modifications to regulate coronary artery disease gene expression** *GENOME MEDICINE*
Zhao, Q., Wirka, R., Trieu Nguyen, Nagao, M., Cheng, P., Miller, C. L., Kim, J., Pjanic, M., Quertermous, T.
2019; 11
- **TCF21 and AP-1 interact through epigenetic modifications to regulate coronary artery disease gene expression.** *Genome medicine*
Zhao, Q., Wirka, R., Nguyen, T., Nagao, M., Cheng, P., Miller, C. L., Kim, J. B., Pjanic, M., Quertermous, T.
2019; 11 (1): 23
- **Large-Scale Single-Cell RNA-Seq Reveals Molecular Signatures of Heterogeneous Populations of Human Induced Pluripotent Stem Cell-Derived Endothelial Cells.** *Circulation research*
Paik, D. T., Tian, L., Lee, J., Sayed, N., Chen, I. Y., Rhee, S., Rhee, J., Kim, Y., Wirka, R. C., Buikema, J. W., Wu, S. M., Red-Horse, K., Quertermous, et al
2018
- **Advances in Transcriptomics: Investigating Cardiovascular Disease at Unprecedented Resolution.** *Circulation research*
Wirka, R. C., Pjanic, M., Quertermous, T.
2018; 122 (9): 1200–1220
- **Coronary artery disease genes SMAD3 and TCF21 promote opposing interactive genetic programs that regulate smooth muscle cell differentiation and disease risk.** *PLoS genetics*
Iyer, D., Zhao, Q., Wirka, R., Naravane, A., Nguyen, T., Liu, B., Nagao, M., Cheng, P., Miller, C. L., Kim, J. B., Pjanic, M., Quertermous, T.
2018; 14 (10): e1007681
- **Circulating peptide prevents preeclampsia** *SCIENCE*
Wirka, R. C., Quertermous, T.
2017; 357 (6352): 643–44
- **The ESCRT-III pathway facilitates cardiomyocyte release of cBIN1-containing microparticles** *PLOS BIOLOGY*
Xu, B., Fu, Y., Liu, Y., Agvastian, S., Wirka, R. C., Baum, R., Zhou, K., Shaw, R. M., Hong, T.
2017; 15 (8): e2002354
- **Genetics and Genomics of Coronary Artery Disease.** *Current cardiology reports*
Pjanic, M., Miller, C. L., Wirka, R., Kim, J. B., Direnzo, D. M., Quertermous, T.
2016; 18 (10): 102-?
- **Low prevalence of connexin-40 gene variants in atrial tissues and blood from atrial fibrillation subjects.** *BMC medical genetics*
Tchou, G. D., Wirka, R. C., Van Wagoner, D. R., Barnard, J., Chung, M. K., Smith, J. D.
2012; 13: 102
- **Association of VEGF and VEGFR2 single nucleotide polymorphisms with hypertension and clinical outcome in metastatic clear cell renal cell carcinoma patients treated with sunitinib.** *Cancer*
Kim, J. J., Vaziri, S. A., Rini, B. I., Elson, P., Garcia, J. A., Wirka, R., Dreicer, R., Ganapathi, M. K., Ganapathi, R.
2012; 118 (7): 1946–54
- **A common connexin-40 gene promoter variant affects connexin-40 expression in human atria and is associated with atrial fibrillation.** *Circulation. Arrhythmia and electrophysiology*
Wirka, R. C., Gore, S., Van Wagoner, D. R., Arking, D. E., Lubitz, S. A., Lunetta, K. L., Benjamin, E. J., Alonso, A., Ellinor, P. T., Barnard, J., Chung, M. K., Smith, J. D.
2011; 4 (1): 87–93