Curriculum Vitae - Sudarshan Anand, PhD

Name

Sudarshan Anand, PhD

Current Position

Assistant Professor,
Department of Cell and Developmental Biology,
Department of Radiation Medicine,
Investigator, Knight Cancer Institute,
Oregon Health & Science University,
Portland, OR 97239

Education

1996-2001 **Birla Institute of Technology and Science, Pilani, India**
M.Sc. (Honors), Biological Sciences and B.Pharm. (Honors),
Dual-degree program, graduated first division

2001-2002 **University of Maryland, College Park, MD**
Molecular and Cell Biology Program (Transferred to Mayo Clinic)

2002-2007 **Johns Hopkins University School of Medicine, Baltimore, MD**
Ph.D. (Immunology) Mentor: Dr. Lieping Chen
(Transferred from Mayo Clinic, MN in 2004 with Mentor's lab)

Positions

2007-2013 Postdoctoral Scholar, Moores UCSD Cancer Center, San Diego, CA

2013-2014 Assistant Research Scientist, Moores UCSD Cancer Center, San Diego, CA

Research Support

Active

1R00 HL112962 (Anand) 03/01/2014-02/28/2017 12 Cal Months
NIH/NHLBI $249,000/year

Title: MicroRNA regulation of cell survival in angiogenesis and vessel maturation

Completed

1K99 HL112962-01 (Anand) 06/01/2012-05/30/2014 12 Cal Months
NIH/NHLBI $98,000/year

Title: MicroRNA regulation of cell survival in angiogenesis and vessel maturation

09POST2040038 (Anand) 07/01/2009-06/30/2011 10 Cal Months
American Heart Association $40,000

Title: Investigating the role of microRNA-132 in angiogenesis

Curriculum Vitae - Sudarshan Anand, PhD

Fellowships, Awards and Honors

1994 Gifted Youth Program for exceptional high school students, Anna University, India
1999 Summer Research Fellowship, JNCASR, Bangalore, India
2004 FOCIS travel award, International Immunology meeting, Montreal, CA
2009 American Heart Association Postdoctoral Fellowship
2011 Invited speaker, 'Building Better Blood Vessels', ASN Annual meeting, Philadelphia, PA
2012 Invited speaker, NIH K Award Cardiovascular Investigator's Meeting, Bethesda, MD
2012 NIH/NHLBI K99/R00 Pathway to Independence Award
2012 Invited speaker, Smooth Muscle FASEB Summer Research Conference, Snowmass, CO
2012 Invited speaker, Topics and Advances in Internal Medicine, San Diego, CA
2013 Invited speaker, Moores Cancer Center Noon Scientific Lecture, UCSD, CA
2013 Invited speaker, Knight Cancer Institute, OHSU, Portland, OR
2013 Invited speaker, Yale Cancer Center, New Haven, CT
2013 Visiting speaker, National Center for Biological Sciences, Bangalore, India

Peer-reviewed Publications

*Total citations: **549** (Data from Google Scholar as of 05/05/2014)*

1. **Anand, S**., Wang, P., Yoshimura, K., Choi, I.H., Hilliard, A., Chen, Y.H., Wang, C.R., Schulick, R., Flies, A.S., Flies, D.B., et al. 2006. Essential role of TNF family molecule LIGHT as a cytokine in the pathogenesis of hepatitis. ***J Clin Invest*** 116:1045-1051.

   * *Faculty of 1000 "Recommended" rating*

2. Xu, Y., Flies, A.S., Flies, D.B., Zhu, G., **Anand, S.**, Flies, S.J., Xu, H., Anders, R.A., Hancock, W.W., Chen, L., et al. 2007. Selective targeting of the LIGHT-HVEM costimulatory system for the treatment of graft-versus-host disease. ***Blood*** 109:4097-4104.

3. Zhu, G., Augustine, M.M., Azuma, T., Luo, L., Yao, S., **Anand, S.**, Rietz, A.C., Huang, J., Xu, H., Flies, A.S., et al. 2009. B7-H4-deficient mice display augmented neutrophil-mediated innate immunity. ***Blood*** 113:1759-1767.

   * *Faculty of 1000 "Must read" rating*

4. Murphy, E.A., Shields, D.J., Stoletov, K., Dneprovskaia, E., McElroy, M., Greenberg, J.I., Lindquist, J., Acevedo, L.M., **Anand, S.**, Majeti, B.K., et al. 2010. Disruption of angiogenesis and tumor growth with an orally active drug that stabilizes the inactive state of PDGFRbeta/B-RAF. ***Proc Natl Acad Sci U S A*** 107:4299-4304.

5. Park, J.J., Omiya, R., Matsumura, Y., Sakoda, Y., Kuramasu, A., Augustine, M.M., Yao, S., Tsushima, F., Narazaki, H., **Anand, S.**, et al. 2010. B7-H1/CD80 interaction is required for the induction and maintenance of peripheral T cell tolerance. ***Blood*** 116:1291-1298.

   * *Faculty of 1000 "Recommended" rating*

6. **Anand, S.**, Majeti, B.K., Acevedo, L.M., Murphy, E.A., Mukthavaram, R., Scheppke, L., Huang, M., Shields, D.J., Lindquist, J.N., Lapinski, P.E., et al. 2010. MicroRNA-132-mediated loss of p120RasGAP activates the endothelium to facilitate pathological angiogenesis. ***Nat Med*** 16:909-914.

- *Cover highlight, News and Views commentary in Nature Medicine*
- *Faculty of 1000 "Must read" rating*
- *200 citations (05/05/2014)*

7. Mielgo, A., Seguin, L., Huang, M., Camargo, M.F., **Anand, S.**, Franovic, A., Weis, S.M., Advani, S.J., Murphy, E.A., and Cheresh, D.A. 2011. A MEK-independent role for CRAF in mitosis and tumor progression. ***Nat Med*** 17:1641-1645.

8. Park, J.J.*, **Anand, S.***, Zhao, Y.*, Matsumura, Y., Sakoda, Y., Kuramasu, A., Strome, S.E., Chen, L., and Tamada, K. 2011. Expression of anti-HVEM single chain antibody on tumor cells induces tumor-specific immunity with long-term memory. ***Cancer Immunol Immunother*** 61:203-214. ** Equal contribution*

9. Sakoda, Y.*, **Anand, S.***, Zhao, Y.*, Park, J.J., Liu, Y., Kuramasu, A., van Rooijen, N., Chen, L., Strome, S.E., Hancock, W.W., et al. 2011. Regulation of Hypoxia-Inducible Factor-1α and Erythropoiesis by Herpesvirus Entry Mediator. ***J Clin Invest*** 121:4810-4819. ** Equal contribution*

10. Huang, M., **Anand, S.**, Murphy, E.A., Desgrosellier, J.S., Stupack, D.G., Shattil, S.J., Schlaepfer, D.D., and Cheresh, D.A. 2012. EGFR-dependent pancreatic carcinoma cell metastasis via Rap1 activation. ***Oncogene*** 31:2783-2793.

11. Lau, S.K., Shields, D.J., Murphy, E.A., Desgrosellier, J.S., **Anand, S.**, Huang, M., Kato, S., Lim, S.T., Weis, S.M., Stupack, D.G., et al. 2012. EGFR-Mediated Carcinoma Cell Metastasis Mediated by Integrin αvβ5 Depends on Activation of c-Src and Cleavage of MUC1. ***PLoS ONE*** 7:e36753.

12. Westenskow, P.D., Kurihara, T., Aguilar, E., Scheppke, E.L., Moreno, S.K., Marchetti, V., Michael, I.P., **Anand, S.**, Nagy, A., Cheresh, D.A., and Friedlander, M. 2013. Inhibiting the Ras pathway prevents neovascularization by repressing endothelial cell sprouting. ***J Clin Invest***. 123(11):4900–4908.

13. Seguin L., Kato S., Franovic A., Camargo M.F., Elliot K.C., Yebra, M., Lesperance J., Mielgo A., Cascone T., Heymach J.V., Desgrosellier J.S., **Anand S**., Weis S.M. and Cheresh D.A. An integrin b3-KRAS-RalB complex drives tumor stemness and resistance to EGFR inhibition. ***Nat. Cell. Biol.*** 16: 457-468.

14. Advani S., Mielgo A., **Anand S**., Hicks A., Camargo M., Aguilera J., Franovic A., Weis S.M. and Cheresh D.A. *A kinase-independent role for CRAF drives tumor radioresistance via CHK2.* Submitted.

15. **Anand S.,** Advani S., Keshavarzian P., Aguilera J., Weis S.M. and Cheresh D.A. *MicroRNA-103 disrupts neovascularization by suppressing endothelial DNA repair.* Submitted.

Review Articles

1. **Anand S**.: A brief primer on microRNAs and their roles in angiogenesis. ***Vascular Cell*** 2013, 5:2.

2. **Anand S**, Cheresh DA.: Emerging role of microRNAs in the regulation of angiogenesis. ***Genes & Cancer*** 2011, 2:1134-1138.

3. **Anand S**, Cheresh DA.: MicroRNA-mediated regulation of the angiogenic switch. ***Current Opinion in Hematology*** 2011, 18:171-176.

4. **Anand S**, Chen L: Control of autoimmune diseases by the B7-CD28 family molecules. ***Current Pharmaceutical Design*** 2004, 10:121-128.

Selected Poster Presentations

1. **Anand S**, Advani SJ, Scheppke, L, Cheresh DA. MicroRNA-34 functions as an endothelial 'apoptomir' by regulating NOTCH signaling. **6th Annual Frontiers of Clinical Investigation Symposium** - Vascular Biology **2011**: Bench to Bedside. La Jolla, CA

2. **Anand S**, Majeti BK, Acevedo LM, Murphy EA, Mukthavaram R, Scheppke L, Huang M, Shields DJ, Lindquist JN, Weis SM, Cheresh DA. MicroRNA-132 functions as a novel angiogenic switch by targeting p120RasGAP. ***Angiogenesis 2010***, Hyatt Regency, La Jolla, CA

3. **Anand S**, Majeti BK, Acevedo LM, Murphy EA, Mukthavaram R, Scheppke L, Huang M, Shields DJ, Lindquist JN, Weis SM, Cheresh DA. MicroRNA-132 functions as a novel angiogenic switch by targeting p120RasGAP. ***American Society for Cell Biology Annual Meeting 2009,*** San Diego, CA

4. **Anand S**, Majeti BK, Acevedo LM, Murphy EA, Mukthavaram R, Scheppke L, Huang M, Shields DJ, Lindquist JN, Weis SM, Cheresh DA. MicroRNA-132 functions as a novel angiogenic switch by targeting p120RasGAP. ***Gordon Research Conference-Angiogenesis 2009,*** Newport, RI

5. **Anand S**, Tamada K., Wang P, Hilliard A, Lau, J.S., Flies DB, Wang CR, Schulick R, Zhu G, Chen YH, Chen L. LIGHT, a cell surface TNF superfamily ligand, induces acute liver injury after enzymatic cleavage in vivo. ***12th International Congress of Immunology, 2004***, Montreal, CA. * Selected for oral presentation

US Patent Applications

Anand, S., Advani S.J., Cheresh, D.A. # 61/547,934- *Use of microRNAs and microRNA inhibitors to modulate blood vessel growth, patterning, tumor growth and malignant disease.*

Anand, S., Seguin L., Cheresh, D.A. # 61/843,417- *Compositions and methods for treating cancer and diseases and conditions responsive to cell growth inhibition.*

Professional Memberships

2008-present	Member, American Association for Cancer Research
2011-present	Member, American Association for the Advancement of Science
2014-present	Member, North American Vascular Biology Organization
2014-present	Member, Radiation Research Society

Professional Service

Ad-hoc reviewer

Journals: Nature Methods, Journal of Angiogenesis, Cancer Letters, OncoTargets & Therapy.

Grants: Heart Research UK.

Trainees

2009-2010	Arash Calafi – MD Student, UCSD
2010-2011	Geraldo Hernandez – Senior, Sweetwater High School, National City, CA.
Summer 2012	Joyce Lee – Senior, Del Norte High School, San Diego, CA
Summer 2013	Yi Ding – Visiting Undergraduate Student, Zhejiang University, China
2012-2014	Parissa Keshavarzian – Staff Research Associate, UCSD