

Stanford



Rakesh Bam

Postdoctoral Research Fellow, Radiology

Bio

PROFESSIONAL EDUCATION

- Bachelor of Science, Southern Arkansas University (2008)
- Doctor of Philosophy, University of Arkansas for Medical Sciences , Interdisciplinary Biomedical Sciences: Cancer Biology (2014)

STANFORD ADVISORS

- Sanjiv Gambhir, Postdoctoral Faculty Sponsor

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

Using yeast surface display system and directed evolution approach, the goal of my project is to design a peptide ligand specific to B7-H3/CD276 or Thy-1, a tumor-specific blood vessel receptor. This ligand will be conjugated to contrast agents such as microbubbles and dyes for molecular ultrasound and photoacoustic imaging for early cancer detection. Ultimately, ultrasound-aided tumor characterization and detection is desired in clinic for breast cancer patients.

LAB AFFILIATIONS

- Juergen Willmann, Willmann lab (9/11/2017)

Publications

PUBLICATIONS

- **Reciprocal Crosstalk Between YAP1/Hippo Pathway and the p53 Family Proteins: Mechanisms and Outcomes in Cancer** *FRONTIERS IN CELL AND DEVELOPMENTAL BIOLOGY*
Raj, N., Bam, R.
2019; 7
- **Affibody-Indocyanine Green Based Contrast Agent for Photoacoustic and Fluorescence Molecular Imaging of B7-H3 Expression in Breast Cancer.** *Bioconjugate chemistry*
Bam, R., Laffey, M., Nottberg, K., Lown, P. S., Hackel, B. J., Wilson, K. E.
2019
- **Cell-based selections aid yeast-display discovery of genuine cell-binding ligands: Targeting oncology vascular biomarker CD276**
Stern, L., Lown, P., Kobe, A., Abou-Elkacem, L., Bam, R., Willmann, J., Hackel, B.
AMER CHEMICAL SOC.2019
- **Inhibition of IRE1 results in decreased scar formation.** *Wound repair and regeneration : official publication of the Wound Healing Society [and] the European Tissue Repair Society*
Boyko, T. V., Bam, R., Jiang, D., Wang, Z., Bhatia, N., Tran, M. C., Longaker, M. T., Koong, A. C., Yang, G. P.

2018

- **Hypoxia-Induced Endoplasmic Reticulum Stress** *Tumor Hypoxia*
Chou, C., Bam, R., Yang, Z., Bui, J., Jiang, D., Koong, A.
World Scientific.2017
- **Identification of Doxorubicin as an Inhibitor of the IRE1a-XBP1 Axis of the Unfolded Protein Response.** *Scientific reports*
Jiang, D., Lynch, C., Medeiros, B. C., Liedtke, M., Bam, R., Tam, A. B., Yang, Z., Alagappan, M., Abidi, P., Le, Q., Giaccia, A. J., Denko, N. C., Niwa, et al
2016; 6: 33353-?
- **Primary myeloma interaction and growth in coculture with healthy donor hematopoietic bone marrow** *BMC CANCER*
Bam, R., Khan, S., Ling, W., Randal, S. S., Li, X., Barlogie, B., Edmondson, R., Yaccoby, S.
2015; 15
- **CYR61/CCN1 overexpression in the myeloma microenvironment is associated with superior survival and reduced bone disease** *BLOOD*
Johnson, S. K., Stewart, J. P., Bam, R., Qu, P., Barlogie, B., van Rhee, F., Shaughnessy, J. D., Epstein, J., Yaccoby, S.
2014; 124 (13): 2051-2060
- **Role of Bruton's tyrosine kinase (BTK) in growth and metastasis of INA6 myeloma cells** *BLOOD CANCER JOURNAL*
Bam, R., Venkateshaiah, S. U., Khan, S., Ling, W., Randal, S. S., Li, X., Zhang, Q., van Rhee, F., Barlogie, B., Epstein, J., Yaccoby, S.
2014; 4
- **Role of Bruton's tyrosine kinase in myeloma cell migration and induction of bone disease** *AMERICAN JOURNAL OF HEMATOLOGY*
Bam, R., Ling, W., Khan, S., Pennisi, A., Venkateshaiah, S. U., Li, X., van Rhee, F., Usmani, S., Barlogie, B., Shaughnessy, J., Epstein, J., Yaccoby, S.
2013; 88 (6): 463-471
- **NAMPT/PBEF1 enzymatic activity is indispensable for myeloma cell growth and osteoclast activity** *EXPERIMENTAL HEMATOLOGY*
Venkateshaiah, S. U., Khan, S., Ling, W., Bam, R., Li, X., van Rhee, F., Usmani, S., Barlogie, B., Epstein, J., Yaccoby, S.
2013; 41 (6): 547-557

PRESENTATIONS

- Inhibition of IRE1-XBP1 Signaling Results in Reduced Tumor Growth and Metastasis of Breast Cancer - 15th International Tumor Microenvironment Workshop
- Sustained growth of primary myeloma cells in coculture with whole donor bone marrow is associated with induced secretion of the microenvironmental mediator of cytokinesis, Hemicentin-1. - American Society of Hematology (12/2014)
- Inhibition of BTK activity in myeloma cells within a supportive microenvironment promotes their growth but suppresses metastasis. - American Society of Hematology (December 2013)
- Healthy donor whole bone marrow cells preconditioned with myeloma patient serum support long-term survival of primary myeloma and reveal altered microenvironmental pathways. - American Society of Hematology (December 2013)
- Macrophages activation by ICAM1 antibody combined with Lenalidomide has enhanced anti-myeloma activity in a supportive microenvironment in vivo and in vitro. - American Society of Hematology (December 2013)
- Primary myeloma plasma cells are capable of growth in adult, normal whole human bone marrow environment. - American Association for Cancer Research (April 2013)
- Cell surface CXCR4 and BTK expression are associated in myeloma cells and osteoclast precursors and mediate myeloma cell homing and clonogenicity, and osteoclastogenesis. - American Society of Hematology (12/2011)
- Deregulated cellular iron metabolism factors mediate iron overload in myeloma cells and osteoclasts, and promote myeloma growth and bone disease. - American Society of Hematology (December 2011)
- BTK mediates SDF-1-induced migration of myeloma cells and osteoclast precursors, osteoclastogenesis and myeloma cell clonogenicity. - American Society for Bone and Mineral Research (9/2011)
- Binding of NS3 helicase to single-stranded/double-stranded DNA junctions. - Annual Biomedical Research Conference for Minority Students (11/2007)