Jang-June Park, Ph.D

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Summary

Organized scientist specialized in T cells Immunology, human virology and antibody engineering for immunotherapy. Adept and successful in writing research manuscripts and presenting talks and posters in the international conferences.

Highlights

- Flow cytometry
- Engineered monoclonal antibody for immunotherapy
- Immunology assays
- Mouse surgery
- Humanized animal model
- T cell Biology

Accomplishments

- Establishment of humanized animal model
- Characterization of natural ligands of Natural Killer T cells
- Large scale of Immunology clinical trial data analysis on chronic and acute hepatitis B (300+ patients in cohorts and clinical trial) in NIH-sponsored U01 grant (Hepatitis B Research Network)
- Generation and Engineering of monoclonal antibody for immunotherapy
- Anti-cancer immunotherapy: single chain monoclonal antibody, a component for Chimeric Antigen Receptor (CAR)
- Immunotherapy using conversion of tolerance and exhaustion and Modification of T cells co-stimulatory molecules signaling pathways using blocking or agonistic monoclonal antibodies, and fusion proteins
- Lentivirus/Retrovirus Molecular work : - design and engineering of the viral
  - construct T Cell Receptors (TCR) and siRNAs
- Outstanding written (17 published papers) and oral (8 poster and oral presentations in international conferences)

Experience

Jan. 2012 – currently
Research associate Faculty
University of Pennsylvania
Conducted experiments on human hepatitis B virus research while supervising other scientists.

Jan. 2011 – Jan. 2012
Research assistant professor
Henry Ford Health System

	Supervising other scientists and study on the roles of micro-RNA and Histone Deacetylase (HDAC) in inflammatory bowel disease colitis models
April 2009 – Dec. 2010	**Post-doctoral fellow** **University of Maryland** at the laboratory of Dr. Koji Tamada Study on translational research to develop immunotherapeutic by manipulating signal pathway of co-stimulatory and co-inhibitory molecules
June 2004 – Oct. 2008	**Post-doctoral fellow** **Johns Hopkins University** at the laboratory of Dr. Drew Pardoll Study on characterization of human Interferon-producing Killer Dendritic cells and the establishment of humanized mouse model with transplantation of adult human stem cells for cancer biology
Jan. 2005 – Dec. 2010	**Volunteer teacher** **Eden Korean Church** Taught English for newly immigrants
June 2005 – Dec. 2010	**Volunteer teacher** **Eden Korean School** Taught Korean language and culture for Korean-Americans (K-12)
Jan. 2002 – April 2002	**Teaching Assistant** **Vanderbilt University** Nashville, TN Taught medical students the class of Medical Microbiology
Aug. 1999 – April 2004	**Research Assistant** **Vanderbilt University** Nashville, TN Study on mechanism of CD1d ligands in Natural Killer T cells function.
Oct. 1998 – Aug. 1999	**Postgraduate researcher** **University of California at Davis** Davis, CA Study on stomach physiology by surgery of wild type and somastatin-knock out mice with drugs treatment.
1990 – 1993	**Army Soldier** (South Korea) as a duty

Education

1999 - 2004	**Vanderbilt University** Nashville, TN Microbiology and Immunology **Ph.D**
1997 - 1998	**University of California** Davis, CA Immunology **Master of Science**
1989 - 1996	**Korea University** Seoul, Korea Biology **Bachelor of Science**

Skills

- Mouse surgeries (+10 years):
    - Administration of tumors and lymphocytes by subcutaneous, intraperitoneal or intravenous injection
    - Tissue preparation: thymus, lung, heart, PBMC, bone marrow, spleen, liver, epidermis, dermis and lymph nodes.
- Generation and Engineering of monoclonal antibody for immunotherapy
- Conjugation of reagents: Metal-conjugated antibodies for Cytof
- Tetramer conjugation of antibodies for detection of HCV- or HBV-specific antigens
- Molecular work to design and engineering of the viral construct: T Cell Receptors (TCR) and siRNAs
- Generation of viral stock and transduction of Lentivirus/Retrovirus
- Immunology assays:
- Flow cytometry (+10 years), Cytof (certified training from Fluidigm)
- ELISA, ELISPOT, Western blot, and immunohistochemistry
- HPLC and LC-Mass spectrometry
- DNA RNA isolation and RT-PCR
- Data analysis softwares: statistics (JMP and Prism) and flow cytometry (Flowjo and SPADE)
- Large scale of Immunology data analysis

Publications

Selected Peer-Reviewed Publications (in chronological order)

1. Park JJ, David K. Wong, Wahed S. Abdus, William M. Lee, Jordan J. Feld, Norah Terrault, Mandana Khalili, Kris V. Kowdley, Daryl T. Lau, Richard K. Sterling, W. Ray Kim, Coleman Smith, Robert L. Carithers, Danielle L. Levine, James Keith, Mary E. Valiga,

Anna S. F. Lok, and Kyong-Mi Chang for the HBRN. Circulating effector and regulatory T cell responses are globally suppressed in chronic hepatitis B regardless of clinical activity (submitted)

2. Park JJ, Daniel Traum, Suzanne Ho, Abdus S. Keisuke Ojiro, Wahed, David K. Wong, William M. Lee, Jordan J. Feld, Norah Terrault, Mandana Khalili, Kris V. Kowdley, Daryl T. Lau, Richard K. Sterling, W. Ray Kim, Coleman Smith, Robert L. Carithers, Danielle L. Levine, James Keith, Mary E. Valiga, Anna S. F. Lok, and Kyong-Mi Chang for the HBRN. Chronic but not acute hepatitis B is associated with the increase in frequency and IFN-g production of CD3hi CD4-T cells (submitted)
3. Xu D, Fu H, Obar JJ, Park JJ, Tamada K, Yagita H, Lefrançois L. (2013) A potential new pathway for PD-L1 costimulation of the CD8-T cell response to Listeria monocytogenes infection. **PLoS One** 8(2):e56539. doi: 10.1371/journal.pone.0056539. Epub 2013 Feb 11.
4. Park JJ, Anand S, Zhao Y, Matsumura Y, Sakoda Y, Kuramasu A, Strome SE, Chen L, Tamada K. (2012) Expression of anti-HVEM single-chain antibody on tumor cells induces tumor-specific immunity with long-term memory. **Cancer Immunol Immunotherapy** 61(2):203-14.
5. Shi YL, Gu J, Park JJ, Xu YP, Yu FS, Zhou L, Mi QS. (2012) Histone deacetylases inhibitor Trichostatin A ameliorates DNFB-induced allergic contact dermatitis and reduces epidermal Langerhans cells in mice. **J Dermatological Science** 68(2):99-107.
6. Sakoda Y, Anand S, Zhao Y, Park JJ, Liu Y, Kuramasu A, van Rooijen N, Chen L, Strome SE, Hancock WW, Chen L, Tamada K. (2011) Herpesvirus entry mediator regulates hypoxia-inducible factor-1 and erythropoiesis in mice. **Journal of Clinical Investigation** 121(12):4810-9.
7. Sakoda Y, Park JJ, Zhao Y, Kuramasu A, Geng D, Liu Y, Davila E, Tamada K. (2011) Dichotomous regulation of GVHD through bidirectional functions of the BTLA-HVEM pathway. **Blood** 117(8):2506-14.
8. Zhou L*, Park JJ*, Zheng Q, Dong Z, Mi Q. (2011) MicroRNAs are key regulators controlling iNKT and regulatory T-cell development and function. **Cell Mol Immunology** 8(5):380-7.
9. Kim YS, Park JJ, Sakoda Y, Zhao Y, Hisamichi K, Kaku T, Tamada K.(2010) Preventive and therapeutic potential of placental extract in contact hypersensitivity. **Int Immunopharmacol**. 10(10):1177-84.
10. Park JJ, Omiya R, Matsumura Y, Sakoda Y, Kuramasu A, Augustine MM, Yao S, Tsushima F, Narazaki H, Anand S, Liu Y, Strome SE, Chen L, Tamada K. (2010) B7-H1/CD80 interaction is required for the induction and maintenance of peripheral T-cell tolerance. **Blood** 116(8):1291-8.
11. Yoshimura K, Meckel KF, Laird LS, Chia CY, Park JJ, Olino KL, Tsunedomi R, Harada T, Iizuka N, Hazama S, Kato Y, Keller JW, Thompson JM, Chang F, Romer LH, Jain A, Iacobuzio-Donahue C, Oka M, Pardoll DM, Schulick RD. (2009) Integrin alpha2 mediates selective metastasis to the liver. **Cancer Research** 15;69(18):7320-7328
12. Pletneva M, Fan H, Park JJ, Radojcic V, Jie C, Yu Y, Chan C, Redwood A, Pardoll D, Housseau F. (2009) IFN-producing killer dendritic cells are antigen-presenting cells endowed with T-cell cross-priming capacity. **Cancer Research** 15; 69(16):6607-6614.
13. Stanic AK, Bezbradica JS, Park JJ, Van Kaer L, Boothby MR, Joyce S. (2004) Cutting edge: the ontogeny and function of Va14Ja18 natural T lymphocytes require signal processing by protein kinase C theta and NF-kappa B. **The Journal of Immunology** 172, 4667-4671
14. Stanic AK, Bezbradica JS, Park JJ, Matsuki N, Mora AL, Van Kaer L, Boothby MR, Joyce S. (2004). NF-kappa B controls cell fate specification, survival, and molecular

differentiation of immunoregulatory natural T lymphocytes. **The Journal of Immunology** 2004 15; 172(4):2265-2273.

15. Park JJ, Kang SJ, A. De Silva D, Stanic AK, Casorati G, Hachey DL, Cresswell P and Joyce S. (2004). Lipid-protein interactions: biosynthetic assembly of CD1 with lipids in the endoplasmic reticulum is evolutionarily conserved. Proceedings of the National Academy of Sciences of the United States of America **(PNAS)** 27; 101(4):1022-1026.
16. Yang JQ, Singh AK, Wilson MT, Satoh M, Stanic AK, Park JJ, Hong S, Gadola SD, Mizutani A, Kakumanu SR, Reeves WH, Cerundolo V, Joyce S, Van Kaer L, Singh RR. (2003). Immunoregulatory Role of CD1d in the Hydrocarbon Oil-Induced Model of Lupus Nephritis. **The Journal of Immunology** 171, 2142-2153.
17. Stanic AK, De Silva AD, Park JJ, Sriram V, Ichikawa S, Hirabyashi Y, Hayakawa K, Van Kaer L, Brutkiewicz RR, Joyce S (2003). Defective presentation of the CD1d1-restricted natural Va14Ja18 NKT lymphocyte antigen caused by b-D-glucosylceramide synthase deficiency. Proceedings of the National Academy of Sciences of the United States of America **(PNAS)** 100, 1849-1854.
18. Stanic AK, Park JJ, Joyce S. (2003). Innate self-recognition by an invariant, rearranged T-cell receptor and its immune consequences. **Immunology** 109, 171-184.
19. De Silva AD*, Park JJ*, Matsuki N, Stanic AK, Brutkiewicz RR, Medof ME, Joyce S. (2002). Lipid protein Interactions: The assembly of CD1d1 with cellular phospholipids occurs in the endoplasmic reticulum. **The Journal of Immunology** 168, 723-733.

Talk and Poster presentation (in chronological order)

1. Jang-June Park, Daniel Traum, Suzanne Ho, Abdus S Wahed, Geoffrey Johnson, Keisuke Ojiro, David K. Wong, William M. Lee, Norah Terrault, Mandana Khalili, Richard K. Sterling, Kris V. Kowdley, Daryl T. Lau, Lewis R. Roberts, Coleman Smith, Robert L. Carithers, Stewart Cooper, Danielle L. Levine, James Keith, Mary E. Valiga, Michael Betts, Harry Janssen, Anna S. F. Lok, and Kyong-Mi Chang for the HBRN. CD3hiCD4-Vgamma9/ Vdelta TCR+ gamma delta T Cells with Th1 AND NK-like phenotype are induced in patients with chronic hepatitis B (Postor #RS-3783) **The International Liver Congress 2015, 50th annual meeting of the European Association for the Study of the Liver (EASL)** April 22- 26, 2015, Vienna, Austria
2. Jang-June Park, Daniel Traum, Abdus S. Wahed, Suzanne Ho, David K. Wong, William M. Lee, Jordan J. Feld, Norah Terrault, Mandana Khalili, Kris V. Kowdley, Daryl T. Lau, Richard K. Sterling, W. Ray Kim, Coleman Smith, Robert L. Carithers, Danielle L. Levine, James Keith, Mary E. Valiga, Anna S. F. Lok, and Kyong-Mi Chang for the HBRN. CD3hi CD4- gamma delta T cells are induced in chronic hepatitis B (oral presentation #O-74) **2014 International Meeting on Molecular Biology of Hepatitis B Viruses**, September 3-6, 2014 University of California Los Angeles Los Angeles, California, USA
3. Jang-June Park, Daniel Traum, Suzanne Ho, David K. Wong, Abdus S. Wahed, William M. Lee, Jordan J. Feld, Norah Terrault, Mandana Khalili, Kris V. Kowdley, Daryl T. Lau, Richard K. Sterling, W. Ray Kim, Coleman Smith, Robert L. Carithers, Danielle L. Levine, James Keith, Mary E. Valiga, Anna S. F. Lok, and Kyong-Mi Chang for the HBRN, Vaccine-mediated Protective Immunity and Viral Persistence in Hepatitis B Virus Infection (poster #15) **15th Annual Symposium Center for Molecular Studies in Digestive and Liver Diseases "Liver Biology and Translational Therapeutics"**, June 11, 2014 National Constitution Center Kirby Auditorium, Philadelphia, PA
4. Jang-June Park, David K. Wong, Abdus S. Wahed, William M. Lee, Jordan J. Feld, Norah Terrault, Mandana Khalili, Kris V. Kowdley, Daryl T. Lau, Richard K. Sterling, W. Ray Kim, Coleman Smith, Robert L. Carithers, Danielle L. Levine, James Keith, Mary E.

Valiga, Anna S. F. Lok, and Kyong-Mi Chang for the HBRN. T cell Responses to HBV non-S Region in HBV S Protein Vaccine Recipients and Inhibitory Pathways in Chronic Hepatitis B patients (poster presentation #3087) **The International Liver Congress 2014, 49th annual meeting of the European Association for the Study of the Liver (EASL)** April 9-13, 2014, London, UK

5. Jang-June Park, David K. Wong, Abdus S. Wahed, William M. Lee, Jordan J. Feld, Norah Terrault, Mandana Khalili, Kris V. Kowdley, Daryl Lau, Richard K. Sterling, W. Ray Kim, Coleman Smith, Robert L. Carithers, Danielle L. Levine, James Keith, Mary E. Valiga, Anna S. Lok, Kyong-Mi Chang. Immune correlates of chronic hepatitis B phenotypes in North America: Results from the Hepatitis B Research Network (HBRN) (oral presentation #1739117) **The 64th Annual Meeting of the American Association for the Study of Liver Diseases (AASLD)** November 1-5, 2013, Washington, DC
6. Jang-June Park, Omiya R, Matsumura Y, Sakoda Y, Kuramasu A, Liu Y, Strome SE, Chen L, Tamada K. Peripheral T cell tolerance is reversed by blockade of B7-H1/CD80 interaction. (abstract # 132564_2) **Tumor Immunology: Basic and Clinical Advances Conference**. Dec. 2, 2010 in Miami Beach, Florida
7. Jang-June Park, Suk-Jo Kang, David L Hachey, Peter Cresswell, Sebastian Joyce. Biosynthetic Assembly of CD1 with Phosphatidylinositol Occurs in the Endoplasmic Reticulum and Is Evolutionarily Conserved. (abstract #2106, publication # M2.160). **12th International Congress of Immunology and 4th Annual Conference of FOCIS**, July 18, 2004, in Canada
8. Jang-June Park, Suk-Jo Kang, A. Dharshan De Silva, Aleksandar K. Stanic, Giulia Casorati, David L. Hachey, Peter Cresswell and Sebastian Joyce. Lipid-protein interactions: biosynthetic assembly of CD1 with lipids in the endoplasmic reticulum is evolutionarily conserved. (abstract #78) **Autumn Immunology Conference** November, 22, 2003, in Chicago, IL.
9. Jang-June Park, David Hachey, A. Dharshan De Silva, Naoto Matsuki, Aleksandar K. Stanic and Sebastian Joyce. Assembling a CD1 molecule in vivo. (abstract #930.27). **Experimental Biology (FASEB)** April, 2002, in New Orleans, LA.