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PROFESSIONAL EXPERIENCE

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| Seoul National University College of Medicine, Seoul, Republic of Korea
Department of Anatomy and Cell Biology / Biomedical Sciences
Assistant Professor | 2018 - |
| Harvard Medical School / Massachusetts General Hospital, Boston, MA
Edwin L. Steele Laboratories for Tumor Biology
Research Fellow (Advisor: Professor Rakesh K. Jain) | 2013 - 2018 |
| Harvard Medical School / Massachusetts General Hospital, Boston, MA
Wellman Center for Photomedicine [<i>in vivo</i> imaging]
Research Fellow (Advisor: Professor Seok Hyun Andy Yun) | 2010 - 2013 |
| KAIST (Korea Advanced Institute of Science and Technology), Daejeon
Postdoctoral Fellow (Advisor: Professor Gou Young Koh) | 2010 |

EDUCATION

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| KAIST (Korea Advanced Institute of Science and Technology), Daejeon
Ph.D. in Biological Sciences and Biomedical Science & Engineering Program
Advisor: Professor Gou Young Koh | 2005 - 2010 |
| KAIST (Korea Advanced Institute of Science and Technology), Daejeon
B.S. in Biological Sciences | 2001 - 2005 |

HONORS AND AWARDS

- Creative-Pioneering Researchers Program, SNU (2018-2027)
- Speaker Award, Gordon Research Conference - Angiogenesis (2017)
- Bristol-Myers Squibb (BMS) Award, Tumor Immunology and Immunotherapy Meeting (2016)
- Travel Award for Speakers, Gordon Research Conference - Chemotactic Cytokines (2016)
- AACR-GYRIG Scholar-in-Training Award, AACR Annual Meeting (2016)
- AACR-Aflac, Incorporated Award, American Association for Cancer Research (2015)
- Global Health Award, Keystone Symposia (2014)
- Excellence Award – The 1st Young Pasteurian Award, Institut Pasteur Korea (2010)
- Top Best Award - The 8th Bioneer Award, KAIST and Bioneer Inc. (2009)
- Best Presentation Award (Oral) - Brain Korea 21 Department Symposium, KAIST (2009)
- KAIST (Korea Advanced Institute of Science and Technology) Scholarship, KAIST (2001-2005)
- Bronze Medal Award - The 4th Korean Biology Olympiad (KBO), The Korean Society of Biology Education (2000)

FELLOWSHIPS AND GRANTS

- Tosteson Fund for Medical Discovery (FMD) Postdoctoral Fellowship Award, MGH ECOR (2011-2012)
- National Graduate Science and Technology Scholarship, Korea Science and Engineering Foundation (KOSEF) (2008-2009)

PUBLICATIONS**WITHIN THE LAST 5 YEARS (FIRST-AUTHOR ONLY)**

1. **Jung, K.**, Heishi, T., Incio, J., Huang, Y., Beech, E.Y., Pinter, M., Ho, W.W., Kawaguchi, K., Rahbari, N.N., Chung, E., Kim, J.K., Clark, J.W., Willett, C.G., Yun, S.H., Luster, A.D., Padera, T.P., Jain, R.K.[#], Fukumura, D.[#]. Targeting CXCR4-dependent immunosuppressive Ly6C^{low} monocytes improves antiangiogenic therapy in colorectal cancer. *Proc. Natl. Acad. Sci. USA* **114**(39):10455-10460 (2017).
2. **Jung, K.**, Heishi, T., Khan, O.F., Kowalski, P.S., Incio, J., Rahbari, N.N., Chung, E., Clark, J.W., Willett, C.G., Luster, A.D., Yun, S.H., Langer, R., Anderson, D.G., Padera, T.P., Jain, R.K.[#], Fukumura, D.[#]. Ly6C^{lo} monocytes drive immunosuppression and confer resistance to anti-VEGFR2 cancer therapy. *Journal of Clinical Investigation* **127**(8):3039-3051 (2017). (Featured Article)
3. **Jung, K.***, Kim, P.*, Leuschner, F., Gorbатов, R., Kim, J.K., Ueno, T., Nahrendorf, M., Yun, S.H. Endoscopic time-lapse imaging of immune cells in infarcted mouse hearts. *Circulation Research* **112**(6): 891-9 (2013). (* co-first authors)

OTHERS

4. Incio, J., Ligibel, J.A., McManus, D.T., Suboj, P., **Jung, K.**, Kawaguchi, K., Pinter, M., Babykutty, S., Chin, S.M., Vardam, T.D., Huang, Y., Rahbari, N.N., Roberge, S., Wang, D., Gomes-Santos, I.L., Puchner, S.B., Schlett, C.L., Hoffmann, U., Ancukiewicz, M., Tolaney, S.M., Krop, I.E., Duda, D.G., Boucher, Y., Fukumura, D., Jain, R.K. Obesity promotes resistance to anti-VEGF therapy in breast cancer by up-regulating IL-6 and potentially FGF-2. *Science Translational Medicine* **10**(432):eaag0945 (2018).
5. Jones, D., Meijer, E.F.J., Blatter, C., Liao, S., Pereira, E.R., Bouta, E.M., **Jung, K.**, Chin, S.M., Huang, P., Munn, L.L., Vakoc, B.J., Otto, M., Padera, T.P. Methicillin-resistant *Staphylococcus aureus* causes sustained collecting lymphatic vessel dysfunction. *Science Translational Medicine* **10**(424):eaam7064 (2018).
6. Meijer, E.F.J., Blatter, C., Chen, I.X., Bouta, E., Jones, D., Pereira, E.R., **Jung, K.**, Vakoc, B.J., Baish, J.W., Padera, T.P. Lymph node effective vascular permeability and chemotherapy uptake. *Microcirculation* **24**(6):e12381 (2017).
7. Ueno, T., Kim, P., McGrath, M.M., Yeung, M.Y., Shimizu, T., **Jung, K.**, Sayegh, M.H., Chandraker, A., Abdi, R., Yun, S.H. Live images of donor dendritic cells trafficking via CX3CR1 pathway. *Frontiers in Immunology* **7**:412 (2016).
8. Rahbari, N.N., Kedrin, D., Incio, J., Liu, H., Ho, W.W., Nia, H.T., Edrich, C.M., **Jung, K.**, Daubriac, J., Chen, I.X., Heishi, T., Martin, J.D., Huang, Y., Maimon, N., Reissfelder, C., Weitz, J., Boucher, Y., Clark, J.W., Grodzinsky, A.J., Duda, D.G., Jain, R.K., Fukumura, D. Anti-VEGF therapy induces ECM remodeling and mechanical barriers to therapy in colorectal cancer liver metastases. *Science Translational Medicine* **8**(360):360ra135 (2016). (Cover illustration)
9. Nia, H.T., Liu, H., Seano, G., Datta, M., Jones, D., Rahbari, N.N., Incio, J., Chauhan, V.P., **Jung, K.**, Martin, J.D., Askoxylakis, V., Padera, T.P., Fukumura, D., Boucher, Y., Grodzinsky, A.J., Baish, J.W., Munn, L., Jain, R.K. Solid stress and elastic energy as measures of tumor mechanopathology. *Nature Biomedical Engineering* **1**:0004 (2016).
10. Ueno, T., **Jung, K.**, Yeung, M.Y., McGrath, M.M., Shimizu, T., Kim, P., Sayegh, M.H., Chandraker, A., Yun, S.H. Imaging cell biology in transplantation. *Transplant International* **29**(12):1349-1351 (2016).
11. Incio, J., Liu, H., Suboj, P., Chin, S.M., Chen, I.X., Pinter, M., Ng, M.R., Nia, H.T., Grahovac, J., Kao, S., Babykutty, S., Huang, Y., **Jung, K.**, Rahbari, N.N., Han, X., Chauhan, V.P., Martin, J.D., Kahn, J., Huang, P., Desphande, V., Michaleson, J., Michelakos, T.P., Ferrone, C.R., Soares, R., Boucher, Y., Fukumura, D., Jain, R.K. Obesity-induced inflammation and desmoplasia promote pancreatic cancer progression and resistance to chemotherapy. *Cancer Discovery* **6**(8):852-869 (2016).

12. Kloepper, J., Riedemann, L., Amoozgar, Z., Seano, G., Susek, K., Yu, V., Dalvie, N., Amelung, R.L., Datta, M., Song, J.W., Askoxylakis, V., Taylor, J.W., Lu-Emerson, C., Batista, A., Kirkpatrick N.D., **Jung, K.**, Snuderl, M., Muzikansky, A., Stubenrauch, K.G., Krieter, O., Wakimoto, H., Xu, L., Munn, L.L., Duda, D.G., Fukumura, D., Batchelor, T.T., Jain, R.K. Ang-2/VEGF bispecific antibody reprograms macrophages and resident microglia to anti-tumor phenotype and prolongs glioblastoma survival. *Proc. Natl. Acad. Sci. USA* **113**(16):4476-4481 (2016).
13. Peterson T.E., Kirkpatrick, N.D., Hunag, Y., Farrar, C.T., Marijt, K.A., Kloepper, J., Datta, M., Amoozgar, Z., Seano, G., **Jung, K.**, Kamoun, W.S., Vardam, T., Snuderl, M., Goveia, J., Chatterjee, S., Batista, A., Muzikansky, A., Leow, C.C., Xu, L., Batchelor, T.T., Duda, D.G., Fukumura, D., Jain, R.K. Dual inhibition of Ang-2 and VEGF receptors normalizes tumor vasculature and prolongs survival in glioblastoma by altering macrophages. *Proc. Natl. Acad. Sci. USA* **113**(16):4470-4475 (2016).
14. Incio, J., Tam, J., Rahbari, N.N., Suboj, P., McManus, D., Chin, S.M., Vardam, T.D., Batista, A., Babykutty, S., **Jung, K.**, Khachatryan, A., Hato, T., Ligibel, J.A., Krop, I.E., Puchner, S.B., Schlett, C.L., Hoffmann, U., Ancukiewicz, M., Shibuya, M., Carmeliet, P., Soares, R., Duda, D.G., Jain, R.K., Fukumura, D. PlGF/VEGFR-1 signaling promotes macrophage polarization and accelerated tumor progression in obesity. *Clinical Cancer Research* **22**(12):2993-3004 (2016).
15. Pereira, E.R., Jones, D., **Jung, K.**, Padera, T.P. The lymph node microenvironment and its role in the progression of metastatic cancer. *Seminars in Cell & Developmental Biology* **38**:98-105 (2015).
16. Ryu, J.K., Kim, W.J., Koh, Y.J., Piao, S., Jin, H.R., Lee, S.W., Choi, M.J., Shin, H.Y., Kwon, M.H., **Jung, K.**, Koh, G.Y., Suh, J.K. Designed angiopoietin-1 variant, COMP-angiopoietin-1, rescues erectile function through healthy cavernous angiogenesis in a hypercholesterolemic mouse. *Scientific Reports* **5**:9222 (2015).
17. Kim, J.K., Vinarsky, V., Wain, J., Zhao, R., **Jung, K.**, Choi, J., Pardo, A., Breton, S., Rajagopal, J., Yun, S.H. In vivo imaging of tracheal epithelial cells in mice during airway regeneration. *American Journal of Respiratory Cell and Molecular Biology* **47**(6):864-8 (2012).
18. Kim, J.K., Lee, W.M., Kim, P., Choi, M., **Jung, K.**, Kim, S., Yun, S.H. Fabrication and operation of GRIN probes for in vivo fluorescence cellular imaging of internal organs in small animals. *Nature Protocols* **7**(8):1456-69 (2012).
19. **Jung, K.**, Lee, D., Lim, H.S., Lee, S.-I., Kim, Y., Lee, G.M., Kim, S.C., Koh, G.Y. Double anti-angiogenic and anti-inflammatory protein Valpha targeting VEGF-A and TNF-alpha in retinopathy and psoriasis. *Journal of Biological Chemistry* **286**(16):14410-14418 (2011). (Highlighted in *SciBX* **4**(11); 2011)
20. Koh, Y.J., Kim, H.Z., Hwang, S.I., Lee, J.E., Oh, N., **Jung, K.**, Kim, M., Kim, K.E., Kim, H., Lim, N.K., Jeon, C.J., Lee, G.M., Jeon, B.H., Nam, D.H., Sung, H.K., Nagy, A., Yoo, O.J., Koh, G.Y. Double anti-angiogenic protein, DAAP, targeting VEGF-A and angiopoietins in tumor angiogenesis, metastasis, and vascular leakage. *Cancer Cell* **18**(2):171-184 (2010).
21. **Jung, K.**, Lee, J.-E., Kim, H.-Z., Kim, H.M., Park, B.S., Hwang, S.-I., Lee, J.-O., Kim, S.C., Koh, G.Y. Toll-like receptor 4 decoy, TOY, attenuates Gram-negative bacterial sepsis. *PLoS ONE* **4**(10):e7403 (2009). (Highlighted in *Lead Discovery* 2009)
22. Kataru, R.P., **Jung, K.**, Jang, C., Yang, H., Schwendener, R.A., Baik, J.E., Han, S.H., Alitalo, K., Koh, G.Y. Critical role of CD11b+ macrophages and VEGF in inflammatory lymphangiogenesis, antigen clearance, and inflammation resolution. *Blood* **113**(22):5650-5659 (2009).
23. Kim, H.-Z.*, **Jung, K.***, Kim, H.M., Cheng, Y., Koh, G.Y. A designed angiopoietin-2 variant, pentameric COMP-Ang2, strongly activates Tie2 receptor and stimulates angiogenesis. *BBA-Molecular Cell Research* **1793**(5):772-780 (2009). (* co-first authors)
24. Jeon, B.H., Jang, C., Han, J., Kataru, R.P., Piao, L., **Jung, K.**, Cha, H.J., Schwendener, R.A., Jang, K.Y., Kim, K.S., Alitalo, K., Koh, G.Y. Profound but dysfunctional lymphangiogenesis via vascular endothelial

growth factor ligands from CD11b+ macrophages in advanced ovarian cancer. *Cancer Research* **68**(4): 1100-1109 (2008). (Cover illustration)

PATENTS

1. PCT/US/62/530124, Methods to improve anti-angiogenic therapy and immunotherapy (2018)
2. PCT/US/61/121868, Fusion protein capable of binding VEGF-A and TNF-alpha (double anti-inflammatory and anti-angiogenic protein, Valpha) (2009)
3. PCT/US/08/13494, TLR4 decoy receptor protein (2008)
4. PCT/US/11/932021, Proteins capable of binding VEGF and angiopoietin (double antiangiogenic protein, DAAP) (2007)