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**Date of Birth:** Feb 18<sup>th</sup>, 1981

**Place of Birth:** China

**Research Focus**

My past work focused on the role of inflammation in cancer development and found that disrupted epithelial barrier mechanism in early colorectal tumor cells results in infiltration of gut bacteria and their products into tumor stroma, leading to tumor elicited inflammation and up-regulation of IL-23 in tumor associated macrophages. IL-23 in turn promotes the development and progression of colorectal cancer by controlling the production of inflammatory cytokines including IL-6 and IL-17. Through ablation of the receptor for IL-17 in specific cell compartments, my study showed that IL-17 signals directly on transformed enterocytes to promote early colorectal cancer development. When combined with conventional chemotherapy, a neutralizing antibody against IL-17A showed synergistic effect against established colon tumors in mice, suggesting that such intervention can be used in clinical trials against human colorectal cancers. In continuation of these discoveries, I am exploring the crosstalk between infiltrating myeloid, immune and stromal cells with tumor cells in early stage colorectal cancers, aiming to invent novel therapeutic or diagnostic tools that will benefit human patients with colorectal cancer.

**Working Experience**

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| 2009-current | <b>Department of Pharmacology and Pathology, School of Medicine,<br/>University of California at San Diego</b><br>Postdoctoral Fellow<br>Supervisor: Prof. Michael Karin |
| 2008-2009    | <b>Department of Biochemistry, the Hong Kong University of<br/>Science and Technology</b>  |

Research Associate  
Supervisor: Prof. Yung Hou Wong

### Education

- 2003 – 2008      **Hong Kong University of Science & Technology**  
Ph.D. in Biochemistry  
Supervisor: Prof. Zhenguo Wu  
Thesis title: The involvement of JAK2/STAT2/STAT3 in myogenic differentiation
- 2000 – 2003      **Hong Kong University of Science & Technology**  
B.Sc. in Biochemistry, First Class Honors

### Awards

- 2003-2008      **The Hong Kong University of Science & Technology, University Grants Committee funded Studentship**
- 2003 Summer      **The Hong Kong University of Science & Technology, President's Cup, First Prize**
- 2002 Summer      **Heung To Educational Fund Limited Scholarship for Summer Research**
- 2000-2003      **The Hong Kong Jockey Club Scholarship for Outstanding Mainland Students**
- 2000 Spring      **Drs. Richard Charles and Esther Yewpick Lee Charitable Foundation Scholarship**

### Publications

1.      **Wang, K.**, Kim, M.K., Di Caro, G., Wong, J., Shalapour, S., Wan, J., Zhang, W., Zhong, Z., Sanchez-Lopez, E., Wu, L.W., Taniguchi, K., Feng, Y., Fearon, E., Grivennikov, S.I., and Karin, M., Interleukin-17 receptor a signaling in transformed enterocytes promotes early colorectal tumorigenesis. *Immunity*, 2014. 41(6): p. 1052-63.
2.      Shalapour, S., Font-Burgada, J., Di Caro, G., Zhong, Z., Sanchez-Lopez, E., **Wang, K.**, Ammirante, M., Willimsky, G., Strasner, A., Birner, P., Kenner, L., and Karin, M., TGF $\beta$ -induced immunosuppressive plasma cells are an impediment to successful T

- cell-dependent immunogenic chemotherapy. (Under Revision for *Nature*).
3. Taniguchi, K., Wu, L., Grivennikov, S.I., Jong, P., Lian, I., Yu, F., **Wang, K.**, Ho, S., Boland, B., Chang, J., Sandborn, W., Hardiman, G., Raz, E., Maehara, Y., Yoshimura, A., Zucman-Rossi, J., Guan, K., and Karin, M., A gp130-Src-YAP Module Links Intestinal Injury and Inflammation to Epithelial Regeneration (Under Revision for *Nature*).
  4. **Wang, K.** and Karin, M., Common flora and intestine: A carcinogenic marriage. *Cell Logist*, 2013. 3(1): p. e24975.
  5. Chen, S., Yueh, M.F., Bigo, C., Barbier, O., **Wang, K.**, Karin, M., Nguyen, N., and Tukey, R.H., Intestinal glucuronidation protects against chemotherapy-induced toxicity by irinotecan (CPT-11). *Proc Natl Acad Sci U S A*, 2013. 110(47): p. 19143-8.
  6. Zhang, J., Lu, Y., Yue, X., Li, H., Luo, X., Wang, Y., **Wang, K.**, and Wan, J., MiR-124 suppresses growth of human colorectal cancer by inhibiting STAT3. *PLoS One*, 2013. 8(8): p. e70300.
  7. **Wang, K.**, Grivennikov, S.I., and Karin, M., Implications of anti-cytokine therapy in colorectal cancer and autoimmune diseases. *Ann Rheum Dis*, 2012.
  8. Grivennikov, S.I., **Wang, K.**, Mucida, D., Stewart, C.A., Schnabl, B., Jauch, D., Taniguchi, K., Yu, G.Y., Osterreicher, C.H., Hung, K.E., Datz, C., Feng, Y., Fearon, E.R., Oukka, M., Tessarollo, L., Coppola, V., Yarovinsky, F., Cheroutre, H., Eckmann, L., Trinchieri, G., and Karin, M., Adenoma-linked barrier defects and microbial products drive IL-23/IL-17-mediated tumour growth. *Nature*, 2012. 491(7423): p. 254-8. (Co-first author).
  9. Forcales, S.V., Albini, S., Giordani, L., Malecova, B., Cignolo, L., Chernov, A., Coutinho, P., Saccone, V., Consalvi, S., Williams, R., **Wang, K.**, Wu, Z., Baranovskaya, S., Miller, A., Dilworth, F.J., and Puri, P.L., Signal-dependent incorporation of MyoD-BAF60c into Brg1-based SWI/SNF chromatin-remodelling complex. *EMBO J*, 2012. 31(2): p. 301-16.
  10. **Wang, K.** and Wong, Y.H., G protein signaling controls the differentiation of multiple cell lineages. *Biofactors*, 2009. 35(3): p. 232-8.
  11. **Wang, K.**, Wang, C., Xiao, F., Wang, H., and Wu, Z., JAK2/STAT2/STAT3 are required for myogenic differentiation. *J Biol Chem*, 2008. 283(49): p. 34029-36.

12. Sun, L., Ma, K., Wang, H., Xiao, F., Gao, Y., Zhang, W., **Wang, K.**, Gao, X., Ip, N., and Wu, Z., JAK1-STAT1-STAT3, a key pathway promoting proliferation and preventing premature differentiation of myoblasts. *J Cell Biol*, 2007. 179(1): p. 129-38.
13. Li, Z.Y., Yang, J., Gao, X., Lu, J.Y., Zhang, Y., **Wang, K.**, Cheng, M.B., Wu, N.H., Wu, Z., and Shen, Y.F., Sequential recruitment of PCAF and BRG1 contributes to myogenin activation in 12-O-tetradecanoylphorbol-13-acetate-induced early differentiation of rhabdomyosarcoma-derived cells. *J Biol Chem*, 2007. 282(26): p. 18872-8.
14. Lo, K.W., Kan, H.M., Chan, L.N., Xu, W.G., **Wang, K.P.**, Wu, Z., Sheng, M., and Zhang, M., The 8-kDa dynein light chain binds to p53-binding protein 1 and mediates DNA damage-induced p53 nuclear accumulation. *J Biol Chem*, 2005. 280(9): p. 8172-9.

### Grants and supports

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| 2015-     | <b>NCI (NIH) R-21 (pending)</b><br>IL-17 promotes the proliferation of transformed enterocytes by counteracting detrimental factors in tumor microenvironment |
| 2011-2013 | <b>China Postdoctoral Science Foundation Fellowship</b><br>The role and mechanism of action of IL-23 in colorectal cancer                                     |
| 2009-2011 | <b>Croucher Foundation Fellowship</b><br>Study of T cell function in inflammation and cancer  |