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Work Experience

09/2023-Present	Research Fellow, Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore
09/2024-Present	Postgraduate Tutor, Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore
12/2022-08/2023	Postdoctoral Fellow, Department of Medicine and Therapeutics, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong SAR
08/2022-12/2022	Research Assistant, Department of Medicine and Therapeutics, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong SAR
06/2017-07/2019	Junior engineer, Core Facility for Protein Research, Institute of Biophysics, Chinese Academy of Science, Chaoyang District, Beijing, CN

Academic/Clinical Qualifications

08/2019-07/2022	The Chinese University of Hong Kong, Faculty of Medicine, Hong Kong SAR Doctor of Philosophy in Medical Sciences (Division of Gastroenterology & Hepatology)
09/2015-06/2017	Xi'an Jiaotong University, Xi'an, Shaanxi, CN Master of Medicine in Surgery
09/2010-06/2015	Xi'an Jiaotong University, Xi'an, Shaanxi, CN Bachelor of Medicine
12/2016	Physician Qualification Certificate in China

Research Grants

03/2025-02/2028	National Medical Research Council (NMRC) of Singapore Open Fund-Young Individual Research Grant (OF-YIRG) (Project reference no.: OFYIRG24jul-0056) Enhancing the efficacy of chemotherapy for colorectal cancer through butyrate producing bacteria consortia	Principal Investigator
01/2020-12/2023	National Natural Science Foundation of China (Grant No.81972390) The screening and identification of a new bladder cancer DNA aptamer Apt71 and the study of its pathogenic mechanism	Team member
01/2017-12/2019	National Natural Science Foundation of China (Grant No.81773206) Mechanism of PrLZ regulating AMPK inhibits autophagy and promotes chemotherapy resistance in prostate cancer.	Team member
01/2016-12/2018	National Natural Science Foundation of China (Grant No.81601674) Molecular mechanism of autophagy regulating epithelial mesenchymal transition in pulmonary fibrosis induced by paraquat poisoning.	Team member

Research Awards

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- Dr. Barbara Kwok Young Postdoctoral Researcher Travel Grants, CUHK, 2023
 - APDWF-JGHF Educational Grant, Asian Pacific Digestive Week 2021

Journal Publications

- 1 Wen J, Zhang X, Wong CC, Zhang Y, Pan Y, Zhou Y, Cheung AH; Liu Y; Ji F; **Kang X** et al. Targeting squalene epoxidase restores anti-PD-1 efficacy in metabolic dysfunction-associated steatohepatitis-induced hepatocellular carcinoma. *Gut* 2024;0:1–14. [IF=24.5]
- 2 Su ACY, Ding X, Lau HCH, **Kang X** (joint first author), Li Q, Wang X, et al. *Lactococcus lactis* HkyuLL 10 suppresses colorectal tumorigenesis and restores gut microbiota through its generated alpha-mannosidase. *Gut* 2024;0:1–11. [IF=24.5]
- 3 Lau HCH, Zhang X, Ji F, Lin Y, Liang W, Li Q, Chen D, Fong W, **Kang X**, Liu W, et al. *Lactobacillus acidophilus* suppresses non-alcoholic fatty liver disease-associated hepatocellular carcinoma through producing valeric acid. *EBioMedicine* 2024;100:104952. [IF=11.1]
- 4 **Kang X**, Lau HC, Yu J. Modulating gut microbiome in cancer immunotherapy: Harnessing microbes to enhance treatment efficacy. *Cell Rep Med* 2024;5:101478. [IF=14.3]
- 5 **Kang X**, Liu C, Ding Y, Ni Y, Ji F, Lau HCH, et al. *Roseburia intestinalis* generated butyrate boosts anti-PD-1 efficacy in colorectal cancer by activating cytotoxic CD8(+) T cells. *Gut* 2023;72:2112-22. [IF=24.5]
- 6 **Kang X**, Ng SK, Liu C, Lin Y, Zhou Y, Kwong TNY, et al. Altered gut microbiota of obesity subjects promotes colorectal carcinogenesis in mice. *EBioMedicine* 2023;93:104670. [IF=11.1]
- 7 Fong W, Li Q, Ji F, Liang W, Lau HCH, **Kang X**, et al. *Lactobacillus gallinarum*-derived metabolites boost anti-PD1 efficacy in colorectal cancer by inhibiting regulatory T cells through modulating IDO1/Kyn/AHR axis. *Gut* 2023;72:2272-85. [IF=24.5]
- 8 Wang S, **Kang X**, Alenius H, Wong SH, Karisola P, El-Nezami H. Oral exposure to Ag or TiO(2) nanoparticles perturbed gut transcriptome and microbiota in a mouse model of ulcerative colitis. *Food Chem Toxicol* 2022;169:113368. [IF=4.3]
- 9 Lin Y, Lau HC, Liu Y, **Kang X**, Wang Y, Ting NL, et al. Altered mycobiota signatures and enriched pathogenic *Aspergillus rambellii* are associated with colorectal cancer based on multicohort fecal metagenomic analyses. *Gastroenterology* 2022;163:908-21. [IF=29.4]
- 10 **Kang X**, Zhang R, Kwong TN, Lui RN, Wu WK, Sung JJ, et al. Serrated neoplasia in the colorectum: gut microbiota and molecular pathways. *Gut Microbes* 2021;13:1-12. [IF=12.2]
- 11 Xu Y, Li Y, Pan J, **Kang X**, Zhang X, Feng X, et al. EM2D9, A monoclonal antibody against integrin alpha5beta1, has potent antitumor activity on endometrial cancer in vitro and in vivo. *Cancer Lett* 2020;483:66-74. [IF=9.7]
- 12 Su H, Tao T, Yang Z, **Kang X**, Zhang X, Kang D, et al. Circular RNA cTFRC acts as the sponge of MicroRNA-107 to promote bladder carcinoma progression. *Mol Cancer* 2019;18:27. [IF=37.3]
- 13 Su H, Jiang H, Tao T, **Kang X**, Zhang X, Kang D, et al. Hope and challenge: Precision medicine in bladder cancer. *Cancer Med* 2019;8:1806-16. [IF=4]
- 14 Li Y, Li G, Tao T, **Kang X**, Liu C, Zhang X, et al. The mu-opioid receptor (MOR) promotes tumor initiation in hepatocellular carcinoma. *Cancer Lett* 2019;453:1-9. [IF=9.7]
- 15 Yang Z, Zhang R, Ge Y, Qin X, **Kang X**, Wang Y, et al. Somatic FGFR3 Mutations Distinguish a Subgroup of Muscle-Invasive Bladder Cancers with Response to Neoadjuvant Chemotherapy. *EBioMedicine* 2018;35:198-203. [IF=11.1]

Conference Abstract

- 1 **Kang X**, Liu C, Ni Y, Ji F, Sung JJY, Wong SH, Yu J, *Roseburia intestinalis* generated butyrate boosts anti-PD-1 efficacy in colorectal cancer by activating cytotoxic CD8⁺ T cells, *Gastroenterology*, 2023, 164(6), S-19, Digestive Disease Week 2023, Research Forum, Oral Presentation.
- 2 Su C, Li Q, Jiang L, **Kang X**, Liu W, Ding Y, Lu Y, Yu J, *Lactococcus Lactis* suppresses colorectal

- tumorigenesis by restoring gut microbiome composition and generating beneficial alpha-mannosidase, *Gastroenterology*, 2023, 164(6), S-192, Digestive Disease Week 2023, Research Forum, Oral Presentation.
- 3 Fong W, Li Q, Lau HC, **Kang X**, Liu W, Ji F, Yu J, Lactobacillus gallinarum-derived metabolites boost anti-PD-1 efficacy in colorectal cancer by inhibiting regulatory T cells through IDO1/KYN/AHR axis, *Gastroenterology*, 2023, 164(6), S-88-S-89, Digestive Disease Week 2023, Research Forum, Oral Presentation.
 - 4 Wen J, Zhang X, Wong CC, Zhou Y, Cheung AHK, Pan Y, Zhang Y, **Kang X**, Yu Y, Targeting SQLE reactivates antitumor immunity and rescues immune checkpoint efficacy in non-alcoholic steatohepatitis-induced hepatocellular carcinoma, *Gastroenterology*, 2023, 164(6), S-1254-S-1255, Digestive Disease Week 2023, Research Forum, Oral Presentation.
 - 5 Lin Y, Liu Y, Lau HC, **Kang X**, Ting NLN, Liu C, Wong SH, Sung JJY, Yu J, Multi-cohort fecal metagenomic analysis reveals the altered fungal signatures in colorectal cancer and pathogenic *Aspergillus rambellii*, *Gastroenterology*, 2022, 162(7), S-66, Digestive Disease Week 2022, ePoster.
 - 6 **Kang X**, Kwong TNY, Ni Y, Lin Y, Ng SK, Sung JJY, Wong SH, Yu J, Gut microbiota of obesity promotes colorectal carcinogenesis, *Gastroenterology*, 2021, 160(6), S-15, Digestive Disease Week 2021, Research Forum, Oral Presentation.

Patents

- 1 Yu J, Wu KK, Li Q, **Kang X**, Fong W, Compositions for enhancing immunotherapy efficacy in colorectal cancer treatment (Pub. No.: US 2024/0366693 A1; CN 118892500 A)
- 2 Li C, Li S, Zhang Y, Lin K, **Kang X**, Yang W, A kit to detect the content of MUC-16 based on chemiluminescence (Patent number: 201610345349.8)
- 3 Li C, **Kang X**, Zhang X, Fan Z, Yan H, A kit and method to detect the content of AMH based on time-resolved fluorescence immunoassay (Patent number: ZL 201820166757.1)

Research Interests

- Role of probiotics in chemotherapy and immunotherapy of colorectal cancer
- Host-microbiome interaction in human diseases
- The discovery of next generation probiotics
- Diet effects on microbiota
- Risk factors and serrated neoplasia pathway in colorectal cancer

Skills and Abilities

Laboratory Skills

- **Animal Care:** handle and restrain; colorectal cancer, xenograft and orthotopic model building; oral gavage; intraperitoneal injection; perform animal autopsy.
- **Histology:** embedding process; sectioning; staining (H&E, IHC, AB-PAS), histological evaluation.
- **Immunology:** lymphocyte isolation, activation, and expansion; multicolor flow cytometry assay.
- **Bacteriology:** bacteria maintain and purify; bacteria and host cell coculture; plasmid amplification.
- **Molecular Biology:** nuclear acid, protein determinations and extractions; agarose gel electrophoresis; blotting techniques (Western blot); molecular cloning; gene expression and regulation (RNA extraction and inversion, RT-PCR).
- **Cytobiology:** cell & organoid culture and subculture; cell function analysis (proliferation, migration, apoptosis, cell cycle, adhesion, metabolism etc.).
- IVD immunodiagnostic methods and antigen/ antibody preparation, specializing in ELISA, immune turbidity, lateral flow assays, time-resolved fluor immunoassay, quantum dots and other immune diagnostic methods.