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Tumor homing peptide as an effective tool for diagnosis and treatment of colorectal cancer

Ligand-mediated diagnosis and targeted therapy would have significant clinical applications in cancer treatment. In this study, an orthotopic model of colorectal cancer was established in mice. We used a phage display technology to identify a tumor vasculature homing peptide (TCP-1) which targeted mainly at the vasculature of colorectal tumors but not normal blood vessels in animals and humans. This peptide homed to the colorectal cancer tissues by 11- to 90-fold more than other organs. TCP-1 was also found homing to the blood vessels of orthotopic gastric and liver tumors but not to the lung cancer. Moreover, TCP-1 peptide was found to bind to the blood vessels of surgical tissue samples in 50% of 48 human colorectal cancer patients. TCP-1 could also conjugate with anti-cancer agents and provide optimal treatment for rectal cancer in mice. These data define a novel peptide as an effective agent for imaging detection and provide a therapeutic option for the treatment of gastrointestinal cancers.

Biography

Chi Hin Cho has obtained his PhD in Pharmacology from the University of Hong Kong (HKU) in 1978. After his Postdoctoral training in Canada, he has started working in the National Yang Ming Medical College and Veterans General Hospital as an Associate Professor and Investigator, respectively in Taiwan. He went back to HKU in 1984 as a Lecturer in the Department of Pharmacology and became Chair Professor of Pharmacology in 2000. Later he has joined The Chinese University of Hong Kong (CUHK) in 2007 as a Chairman and Professor of Pharmacology. He has been the Research Professor and Associate Director of the School of Biomedical Sciences, CUHK and became Emeritus Professor in 2016. His current research interests focus on drug development for inflammation and cancers in the gastrointestinal tract. He has published over 370 peer-reviewed articles and 60 reviews in journals and 18 book chapters. He is also the Editor of eight books in gastrointestinal ulcer and cancer. He holds 2 patents concerning drug treatment for gastrointestinal disorders in CUHK. He has served as the Editorial Board Member, Associate Editor and Editor in more than 55 journals in the fields of gastroenterology and pharmacology.

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