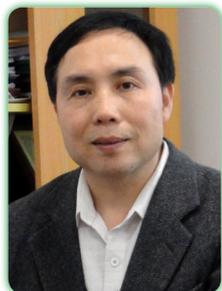


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How Secreted AGR2 helps tumor cells to establish its microenvironment

The establishment of tumor microenvironment involves cell-cell signaling between tumor and normal cells. These signaling molecules are responsible for tumor vascularization, cell migration and integration of normal and tumor cells to form tumor microenvironment that supports tumor formation, growth and metastasis. Several major molecules including VEGF, FGF and EGF and their receptors have been successfully targeted by monoclonal antibodies for cancer treatment, proving their importance in anti-cancer drug development. How these signaling pathways are coordinated and regulated are important for the better understanding of cancer microenvironment and for the development of new strategies against cancer. AGR2 is both a cellular and secreted molecule that has been reported as a tumor marker and a promoter of cancer formation. We have reported that secreted AGR2 promotes blood vessel formation and the blocking of AGR2 by a monoclonal antibody will reduce tumor formation, indicating AGR2 is an extra cellular signaling molecule that plays a pivotal role in tumor microenvironment establishment. Here we report the mechanisms of how secreted AGR2 participates in the microenvironment building process that is already dominated by major players like VEGF, EGF and FGF and their receptors. We will describe our new findings that link AGR2 with tumorigenesis and tumor vascularization and surrounding normal cells especially endothelial cells responsible for new blood vessel formation and supplying nutrients for tumor cells. Our data strongly suggest that AGR2 is a multifunctional local guidance molecule participating cancer microenvironment network buildup by altering the signals of other key players in angiogenesis and cell migration.

Biography

Dawei Li completed his PhD from Ohio State University and postdoctoral studies from Harvard University School of Medicine in the US. He is currently a principle investigator in medicinal biotechnology at School of Pharmacy and Center for Cell Engineering and Antibody Medicine at Shanghai Jiao Tong University. He has published more than 25 papers in reputed journals and 4 approved patents. He is a board member of the Committee for Biochemical Pharmaceutics, Shanghai Pharmaceutical Association and a member of Steering Committee for Student Educational Affairs Management at Shanghai Jiao Tong University.

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