

Dr. Cong Li

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Research Interests

- Molecular Imaging & Imaging Probes
- Image-Guided Surgery & Drug Delivery
- Imaging neuroinflammation in brain disorders

Prof. Dr. Cong Li graduated from the Department of Chemistry of Wuhan University with a Bachelor's degree in 1997, and received his master's degree in 2000. He received a Ph.D degree from the University of Hong Kong in 2004. Then he was trained as a Post-doctor fellow in the Molecular Imaging Center of Johns Hopkins University School of medicine. In 2009, he worked in the School of Pharmacy of Fudan University as an Associated Professor. He was nominated as a full Professor in 2014. Dr. Li focuses on research frontier of "Molecular Imaging & Imaging Probes" and their applications in diagnosis and treatment of malignant brain tumor along with other central nervous system (CNS) diseases. The main achievements are as follows: 1. Aiming to the difficulty of locating the "concealed" epileptic foci in refractory epilepsy, an electric-field-responsive paramagnetic contrast agent was constructed, which could monitor abnormal electrical activity in epileptic foci. 2. In view of the difficulty in locating the invasive margins of glioma during surgery, a pH response probe was constructed to delineate the "metabolic boundary" of glioma by tracing the acidic environment of tumor, which more accurately described the infiltrative area of cancer cells than the imaging strategy widely used in clinical practice. 3. Strategies were constructed to solve the problem of blood-brain barrier preventing drugs from efficiently entering the brain, revealing the endogenous signal transduction mechanism that can controllably open the tight junctions between vascular endothelial cells. 4. It was found that elimination of intracellular ROS, including hydrogen peroxide, can promote phenotypic polarization of microglia cells under pathological conditions, revealing the key role of ROS in regulating phenotypic polarization of microglia cells, and providing a new way to rebalance of the immune microenvironment of glioma and improve the response of immunotherapy. In the past five years, Dr. Cong Li has published 29 SCI papers in authoritative journals such as Nat Biomed Eng, Adv Mater, Angew Chem Int Ed, Adv Sci, Int J Cancer, J Cereb Blood Flow & Metab as corresponding author and holds six authorized patents. He was awarded the National Funds for Distinguished Young Scholars. He also a committee member of Brain Tumor Committee, Chinese Medical Doctor Association and a deputy secretary general of Biological Professional Committee, Chinese Society of Biomedical Engineering.