

Fluorogenic RNA lights up “central dogma”

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Abstract

Li lab has developed fluorogenic RNA-based probing biotechnology for various imaging applications in living human cells and *in vivo* as follows. 1) Imaging single-copied endogenous DNA and its function with RNA-regulated fluorescent protein and CRISPR. 2) Imaging single mRNA and RNA physiology using fluorogenic RNA and small molecules probe; 3) Construction of RNA-based fluorescent biosensor for cellular metabolites, ions, and proteins detection in single cells, revealing cell metabolic signaling pathways.

Biography

Dr. Xing Li is a Professor at the Institute of Zoology, Chinese Academy of Sciences. He received his Ph.D. degree in 2014 at Jilin University and pursued postdoctoral research at Broad Institute of MIT and Harvard, Cornell University. His research primarily focuses on RNA chemical biology, where he develops fluorogenic RNA and CRISPR-based tools for RNA/DNA regulation and imaging. He was selected for National Youth Talent Support Program in China. Over the past five years, Dr. Li has authored multiple articles as a corresponding author, including *Nature Communications* (2024a, 2024b, 2024c), *Angewandte Chemie International Edition* (2021, 2023), *Trends in Biochemical Sciences* (2023), and *Nucleic Acids Research* (2023).