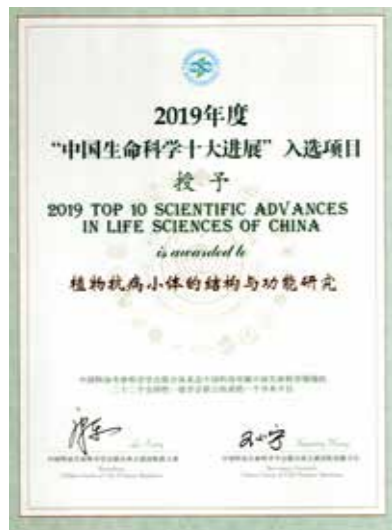


Research Group of Plant Immunity Mechanism
Institute of Genetics and Developmental Biology, Chinese Academy of Sciences



2017 年度获得国家自然科学二等奖
The National Prize for Natural Science of China in 2017 (the second class)



2019 年获得生命科学十大进展
Top 10 Scientific Advances in Life Sciences of China in 2019

Major contributors

Wang Hongwei
Feng feng
Zhang Xiaojuan

The "Plant immunity mechanism research team" led by Prof. Jian-Min Zhou has made significant impact to international field. The discovery and molecular elucidation of resistosome brought about a major missing piece in our understanding of plant immune system. The team additionally elucidated virulence mechanism for multiple bacterial effector proteins, uncovered structural bases of plant surface immune receptor-mediated recognition of immunogenic signals, and deciphered how the central immune component BIK1 control immune signaling network. These advances greatly enhanced our understanding of plant-pathogen interactions and provided new avenue for the development of environmentally friendly disease control measures.

Outstanding contributors of this research group

Zhou Jianmin

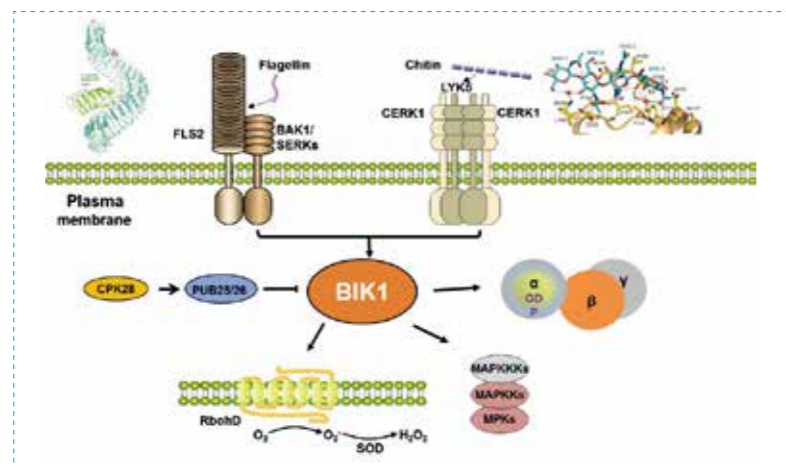
Prof. Jian-Min Zhou conceived and designed projects for molecular and biochemical analyses of surface immune receptor-mediated immune signaling, host targets and mode of action of bacterial effectors, and intracellular immune receptor-mediated immunity.

Chai Jijie

Prof. Jijie Chai conceived and designed projects for structural studies on multiple surface immune receptors, and most importantly, reconstitution and structural analyses of ZAR1 protein complexes.



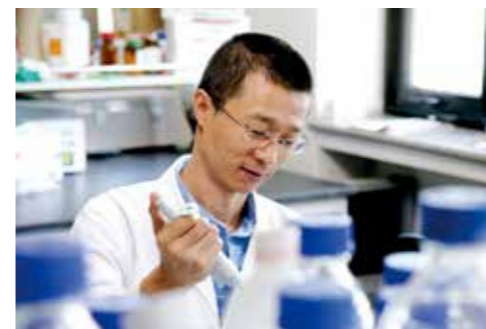
近期发表的植物抗病小体文章
Publications of plant resistosome



植物细胞表面免疫受体信号网络
The immune signaling of plant surface receptors



周俭民与学生在实验室
Zhou Jianmin and his student in the laboratory



柴继杰在实验室
Chai Jijie in the laboratory



周俭民 Zhou Jianmin



柴继杰 Chai Jijie

研究集体突出贡献者

周俭民 中国科学院遗传与发育生物学研究所
主要科技贡献：揭示病原毒性的分子机理；解析BIK1激酶控制免疫的分子网络；共同发现植物抗病小体并阐明其分子机制。

柴继杰 清华大学
主要科技贡献：解析了多个免疫受体复合物结构；共同发现植物抗病小体并阐明其分子机制。

研究集体主要完成者

王宏伟 冯 锋 张晓娟

植物免疫分子机制研究集体

推荐专家：康 乐 方荣祥 李家洋 曹晓风 何祖华

研究集体主要科技贡献：

周俭民研究员领衔的“植物免疫分子机制”研究集体围绕着植物免疫的分子机理开展了一系列研究工作，取得突破性研究成果，具有重要的科学意义及国际影响，主要科技贡献有：1) 提出并验证了抗病蛋白的“诱饵模型”、分离鉴定到抗病蛋白复合物完整组分、发现植物抗病小体并阐释其形成和作用的分子机制。抗病小体的发现是植物免疫研究领域的里程碑式成果。2) 绘制植物细胞表面免疫受体识别病原、调控免疫反应的分子网络。3) 系统破解了病原细菌免疫逃逸的分子机理，发现了全新的蛋白质修饰。



植物抗病小体结构
The structure of plant resistosome



植物抗病小体的专文评述
Highlight for plant resistosome