

Wuhan Virus Research Institute is fully committed to scientific research on new coronavirus pneumonia

Source: Published: 2020-01-29 【Font Size: Tai Zhong small】

Recently, the outbreak of pneumonia caused by new coronavirus infections in Wuhan, Hubei Province, and other areas in my country has attracted national attention. Under the unified deployment of the National Health and Health Commission and the Chinese Academy of Sciences and the guidance of relevant departments in Wuhan City, Hubei Province, the Wuhan Institute of Virology, Chinese Academy of Sciences resolutely implemented the Party Central Committee's decision, stepped up scientific research, fully supported and participated in the related prevention and control work, and fully Play the core supporting role of the Wuhan National Biosafety Laboratory and the National Virus Resource Library built by our institute, focus on pathogen identification, virus tracing, pathogen detection, antiviral drugs and vaccines, and strive to provide important resources for first-line prevention and control treatment Reserve and technological support.

Provide resource support and lead joint research

On December 30, 2019, at the early stage of the outbreak, Wuhan Virus Institute actively responded to the prevention and control linkage mechanism of the Wuhan Municipal Government, the Hubei Provincial Health Commission and the Wuhan Municipal Health Commission to carry out the collection and standardization of new coronavirus samples. . The Institute determined the complete genome sequence of the new coronavirus (hereinafter referred to as the 2019 new coronavirus) on January 2, 2020, and successfully isolated the virus strain on January 5. On January 9th, the virus resource has been included in the national virus resource library according to the standard, and has been standardized for deposit (deposit number: IVCAS 6.7512), which can be provided to the relevant institutions in accordance with the law and regulations. Provide important resource support for research, vaccine development, biomedical screening, etc. On January 11, Wuhan Virus Institute, as one of the designated agencies of the National Health and Health Commission, submitted the 2019 new coronavirus genome sequence information to the World Health Organization, which was published in the Global Initiative on Sharing All Influenza Data (GISAID) To achieve global sharing.

On January 23, 2020, the Hubei Province New Pneumonia Emergency Scientific Research Expert Group convened the first working meeting. The meeting officially announced the establishment of a research team led by Wuhan Virus, with Shi Zhengli as the team leader and 13 experts from Huazhong Agricultural University, Huazhong University of Science and Technology, Wuhan University, Hubei Provincial Hospital, Wuhan Jinyintan Hospital and other units. Focus on joint research in eight areas of rapid detection technology product research and development, disease occurrence, development and transmission laws and clinical diagnosis and treatment, antiviral emergency drugs and antibody drugs, and cooperate with the province's superior scientific research forces to vigorously fight against scientific and technological prevention and control .

Actively participate in and help detect and diagnose

At present, as the key area of the epidemic in Wuhan, suspected cases are constantly appearing, and the task of virus testing is very arduous. On January 26, Wuhan City identified 2 disease prevention and control institutions including the Provincial Center for Disease Control and Prevention, 9 medical institutions such as Tongji Hospital, and 2 professional institutions such as Wuhan Virus Institute to carry out 2019 new coronavirus pneumonia etiology testing. At present, Wuhan virus is the center of epidemic prevention and control. With its own hardware conditions and technology support team, it has carried out some 2019 new coronavirus clinical sample testing to help relieve the pressure of epidemic prevention in Wuhan City and further improve the detection, diagnosis and treatment capabilities of new coronary pneumonia. At the same time, the virus detection reagents and methods developed by the research institute have been used in this pathogen detection work, laying a solid foundation for the development and promotion of subsequent diagnostic kits.

此外，武汉病毒所实现了2019新型冠状病毒相关抗原蛋白的原核和真核表达。通过与珠海丽珠试剂股份有限公司合作，在短时间内完成了2019新型冠状病毒IgG、IgM血清学诊断试剂盒（酶联免疫法），可作为除咽拭子病原核酸检测以外的重要辅助诊断手段。

突破科学难题，取得重要进展

1月23日，武汉病毒所石正丽团队在bioRxiv预印版平台上发表文章《一种新型冠状病毒的发现及其可能的蝙蝠起源》（“Discovery of a novel coronavirus associated with the recent pneumonia outbreak in humans and its potential bat origin”），提出新型肺炎病毒或来源于蝙蝠。文章首次证实了该新型冠状病毒使用与SARS冠状病毒相同的细胞进入受体（ACE2），并发现新型冠状病毒与一种蝙蝠的冠状病毒的序列一致性高达96%，为后续病毒致病机理、病毒溯源等研究提供了重要依据。同时武汉病毒所正积极开展新型冠状病毒感染的抗病毒药物筛选、动物模型建立、疫苗研发等工作。目前已筛选出了几种有潜在临床应用价值的药物，筛选结果已向国家和湖北省新型冠状病毒感染的肺炎疫情防控指挥部科技攻关组报告，供综合研判后指导医疗救治。在动物模型方面，已基本完成小鼠和非人灵长类动物模型的建立，将为后续研究提供关键支撑。

疫情当前，使命在肩。早在2003年SARS爆发时期，国家从战略高度部署了武汉病毒所承担的武汉国家生物安全实验室建设任务。经过十多年的积累，实验室作为我国生物安全防护等级最高的综合性技术平台，一直将应对突发公共卫生事件的能力建设作为其核心责任。在本次疫情发生并完成病原鉴定后，实验室已获国家卫健委批复，可开展新型冠状病毒相关实验活动。未来，武汉病毒所将进一步响应国家号召，依托高等级生物安全实验室和国家病毒资源库等关键科学设施，全面动员、加强科研攻关，继续为新型冠状病毒肺炎相关的科研攻关贡献力量。

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