

Virus Collection of the new Fiocruz Covid-19 Biobank

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Viral emergencies have become increasingly frequent, with significant repercussions on public health. Epidemics caused by the viruses SARS-CoV, MERS-CoV, Ebola, Chikungunya, Zika, SARS-CoV-2, and, most recently, Monkeypox marked the beginning of the 21st century. The Oswaldo Cruz Foundation (Fiocruz) coordinates, as part of the Ministry of Health, a well-structured network of epidemiological control and public health, in assistance of the Brazilian Unified Health System (SUS). Numerous national and international reference laboratories and research laboratories in virology were consolidated over the 100 years of the Fiocruz activities. Driven by the Covid-19 pandemic, Fiocruz created the Covid-19 Biobank (BC19-Fiocruz), which has the infrastructure to safely, reliably, ethically, legally, and traceably store human and non-human biological material (viruses), according to quality standards. The area dedicated to the virus collection has infrastructure for isolation, quantification, and molecular and antigenic characterization, compatible with several viral species. In addition to providing reference viral strains and their derivatives, BC19-Fiocruz aims to offer viral isolation and characterization services to different research groups, boosting viral prospecting in Brazil. The architectural design of BC19-Fiocruz, as well as the implementation of its procedures, were planned based on the general requirements for biobanking specified in the ISO 20387:2018, aiming at its accreditation. This initiative is a milestone for establishing Fiocruz's first collection of human pathogenic viruses. One objective of BC19-Fiocruz is to reduce the vast disparity between laboratories holding virus isolates by offering a high-quality facility, staff, and financial support to preserve and distribute viruses. Having accessible reference material at an affordable price in the national market brings democracy, reliability to national research, and the possibility of assertive responses during health public emergencies. In addition to intramural efforts, Fiocruz for the last 15 years supported the consolidation of the Brazilian Network of Biological Resource Centers (BRC-Br Network), whose compliance system was designed following the structure recommended by the OECD Best Practice Guidelines for BRCs and currently is involved with the consolidation of the Brazilian Biological Collections Network, to which the new virus collection will be linked together the other Fiocruz Biological Collections.