

How Algerian Biotechnology Research Centre working to fight against COVID-19

The ongoing coronavirus 2019 disease (COVID-19) [pandemic](#) is undeniably the most burdensome health problem since the end of 2019. It is increasingly affecting countries worldwide, exhausting health facilities and professionals and challenging the scientific community.

COVID-19 is caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Two months after its first outbreak in Wuhan, China, at the beginning of December 2019, the World Health Organization (WHO) declared the outbreak to be a **Public Health Emergency of International Concern** on 30 January 2020 and then recognized it as a **Pandemic** on 11 March 2020 ¹.

According to The WHO, as of the morning of March 31st 2020, more than 788,500 cases of COVID-19 have been reported in 200 countries and territories, resulting in approximately 37,500 deaths and more than 166,500 recovery cases ¹.

Unfortunately, **Africa** has not been spared the **pandemic**; the virus moved swiftly into a vulnerable **46** countries within weeks; governments and health authorities across the continent are striving to limit widespread infections. **Algeria**, being the most affected **North African** country with more than 700 and 40 deaths, and the second in the continent chart after **South Africa** that accounted for more than **1250** cases², have acted immediately and set several measurements to combat this outbreak.

Three major **Algerian laboratories** are collaborating for **COVID-19** detection and management: **Pasteur Institute Headquarters** in **Algiers** for the Central region, **EHU laboratory** in **Oran** for the Western region, and the **National Biotechnology Research Centre (C.R.Bt)**, in collaboration with Pasteur Institute, in **Constantine** for the Eastern region.

Other western, middle and south public hospitals, research agencies, research centers and universities are also involved in such operation.

The National Biotechnology Research Centre (C.R.Bt), as the unique research Centre in Algeria working on applied biotechnologies research, implemented in 2016 a **BSL2 Microbiological laboratory**, well equipped with sophisticated and necessary material (such as laminar flow hood (BSL2), genetic material area, strains room, destruction room and cleanroom airlocks). Being privileged to have such a laboratory, and to help better control of the spread of COVID-19 in Algeria, the C.R.Bt offered its services to the Pasteur Institute and started running COVID-19 diagnostics tests of samples emerging from **Eastern regional hospitals**.

The C.R.Bt is also the only qualified Centre in terms of biosafety and biosecurity through its Biosafety & Biosecurity Service (BSS), certified after seven years of

training by Sandia National Laboratories (SNL)³. The BSS team is completely involved in the COVID-19 fight by offering theoretical and practical training in biosafety and biosecurity fields for all laboratories that are or will be involved in the SARS-CoV2 diagnostics.

The BSS has also scheduled awareness sessions for the benefits of citizens (through media, radio, television, SMS and social networks). The team will mainly support civil protection and public health professionals in the setting of the biological risk management systems, by teaching them how to take preventive measures to mitigate the biological risk and how to ensure transport of biological material.

Besides, the **multidisciplinary research teams of the centre** are actively working on organizing multiple scientific meetings, testing new COVID-19 diagnostics protocols and optimizations, based on the latest updates suggested by internationally well-known laboratories, and screening for potential antiviral effects of locally identified bioactive molecules.

The National Biotechnology Research Centre's director, Dr. Ammar Azioune, expressed his concern and commitment to work toward an effective collaborative spirit with **Pasteur Institute teams** for the sake of the national health safety. He reported that the Centre, **which is** fully funded by public investments, is now ready to payback its duty and aid the country to combat this outbreak with all of its technological platforms and researchers' expertise. The center is also open for extending a hand to international solidarity and collaborations.

[1] <https://www.sandia.gov/>

[2] <https://www.who.int/>

[3] <https://www.dzairdaily.com/coronavirus-algerie-bilan>