KENYA MEDICAL RESEARCH INSTITUTE

P. O. Box 54840 - 00200 NAIROBI, Kenya
Tel: (254) (020) 2722541, 2713349, 0722-205901, 0733 -400003; Fax: (254) (020) 2720030
E-mail: director@kemri.org; website: www.kemri.org

PRESS RELEASE

Embargoed: 03nd June 2020: 1100hrs

Kenya Scientists Release Genome Sequencing for the Covid-19 Cases in Kenya

Scientists in Kenya have successfully sequenced genomes of SARS-CoV-2, the virus responsible for the global COVID-19 pandemic, obtaining important information about the genetic composition of viral strains in 122 of the confirmed cases in Kenya.

The scientists from the KEMRI's Centre for Virus Research (CVR) and Centre for Geographic Medicine Research-Coast (CGMR-C) in collaboration with the National Public Health Laboratory (NPHL) working closely with County teams analyzed 122 samples from the selected cases to gain a comprehensive understanding of the variations of the virus that are present in the country.

In a report that was deposited today in the Gene Bank on (https://shrts.net/a6iTy) indicate that there were at least 9 separate importations of SARS-CoV-2 into the country prior to **30th April 2020** based on a proportion of sequenced cases. The report further suggests infections detected and confirmed in March 2020 were largely from virus importation into the country. This is based on genetic sequencing of a proportion of SARS-CoV-2 (n=122) samples collected from cases that circulated in Kenya between **12th March and 30th April 2020.**

The report, first of its kind in Kenya shows that SARS-CoV-2 viruses circulating in the country do not differ from viruses circulating elsewhere in the world and provides evidence for local transmissions in Mombasa county, with clusters of infections showing local transmission following these introductions. The report also shows evidence of transmission between Nairobi and Mombasa prior to the introduction of restrictions on movement into and out of these counties. The report further revealed that there are clusters of infections showing local transmission following these introductions. s. Further sequencing will be used to describe the pattern of continuing spread both within communities and between counties across the country. Additional sequencing could also provide information on infections that have been missed and guide testing strategies

Genome sequencing allows for the compilation of the most comprehensive information about an organism's genetic makeup. Using advanced next-generation sequencing methods, scientists are able to track and compare viral mutations to understand the origins of imported strains and to discover if any novel strains are emerging locally.

"This successful sequencing for the novel corona virus SARS Cov-2 in Kenya is a significant milestone in the response to the pandemic in Kenya and the entire World, as this will strengthen surveillance for tracking mutations of the virus and aid in the tracing of the sources of community infections," Prof. Yeri Kombe, Director General KEMRI said.

Viruses acquire changes in their genetic sequence over time. Genetic sequences can therefore provide insights on person to person transmission, which can be visualized by drawing of genetic

trees based on changes in the genetic sequence. This can provide additional estimates of the rate of spread of the virus which is useful where case surveillance and tracing is sparse. Furthermore, whole genome sequence data allows researchers to adapt testing reagents for new mutations in the virus to reduce false negative rates.

Sequencing of additional SARS-CoV-2 genomes in Kenya provides a more detailed picture of local transmission patterns. Additional sampling going forward in time, will also help researchers build a more complete tree to infer transmission patterns within local outbreaks and continue to monitor for evidence of transmission between geographical locations. Researchers will be able to estimate from the genetic distance between sequences how many infections may have been missed. This will be useful in guiding future testing strategy.

The collaborative team has also developed the required capacity within Kenya for monitoring the genetic sequence of SARS-CoV-2 viruses circulating in the country and urges the scaling up of capacity across the country to generate a SARS-CoV-2 genetic sequence library to support and guide public health control measures.

Notes to editor:

About National Public Health Laboratory

The Ministry of Health, National Public Health Laboratory (NPHL) is a public health facility comprising of seven (7) reference laboratory units that provide referral services linking National, International and County laboratories. In its current form, the NPHL is mandated to perform specialized testing for priority infectious and non-communicable diseases, laboratory-based disease surveillance, and to provide quality assurance for the public health laboratory network. In its new role as a division under the MoH Department of Preventive and Promotive Health, NPHL has a clear mandate that grants it stability and helps establish the right leadership with a functional management team. The implementation of its strategic plan will enhance and strengthen the planning and resource mobilization efforts for the institution. https://nphl.go.ke/

About KEMRI

The Kenya Medical Research Institute (KEMRI): is a state corporation established through the Science and Technology (Amendment) Act of 1979, as the national body responsible for carrying out health research in Kenya. Since its inception, 40 years ago, KEMRI has developed a critical mass of scientists and technical personnel, to enable it mount a competitive research infrastructure to rank as a leading centre of excellence in health research both in Africa as well as globally. Recently was nominated as the top research institution in Africa in terms of research output by **Scimago** and **Elsevier** world ranking companies. KEMRI is currently testing for Covid-19 utilizing its wide network of laboratory infrastructure in Busia, Kisumu, Kericho and Kilifi that have highly automated equipment. http://www.kemri.org.

About KEMRI/Wellcome Trust Programme

The Kenya Medical Research Institute (KEMRI)-Wellcome Trust Research Programme was formally established in 1989, is a partnership between KEMRI, Oxford University and the Wellcome Trust. It conducts basic, epidemiological and clinical research in parallel, with results feeding directly into local and international health policy, and aims to expand the country's capacity to conduct multidisciplinary research that is strong, sustainable and internationally competitive. www.kemri-wellcome.org.

For further enquiries, please contact:

Davis MKOJI | Deputy Director, Corporate Communications | KEMRI |Tel: +254 722 309 197| Email: dmkoji@kemri.org|

James WODERA |Head of Communication |KEMRI| jwodera@kemri.org |+254 722 767 682 |Email: jwodera@kemri.org|

Cynthia Mauncho| Head of Communication| KEMRI-Wellcome Trust| +254780547440| cmauncho@kemri-wellcome.org|