Omicron variant BQ.1.1 found to be resistant to all monoclonal antibody treatments
22 November 2022, by Bob Yirka

A combined team of researchers from Leibniz Institute for Primate Research and Friedrich-Alexander University of Erlangen-Nürnberg, both in Germany, has found that the SARS-CoV-2 omicron variant BQ.1.1 is resistant to all known monoclonal antibody treatments. In their study, published in *The Lancet—Infectious Diseases*, the group tested a host of omicron sublineages against all known antibody treatments.

Monoclonal antibody treatments, as their name suggests, are therapies that prompt antibody production in people already infected with a pathogen. As the pandemic has worn on, medical researchers have continually searched for new monoclonal antibody treatments to fight off future variants of the virus. But now, it seems researchers are losing that race. In this new effort, the researchers looked at COVID-19 variants and the effectiveness of monoclonal antibody treatments used to combat them.

In their work, the researchers looked at BJ.1, BA.4.6, BA.2.75.2 and BQ.1.1—all subvariants of the omicron strain of the SARS-CoV-2 virus. They tested each against all of the currently available monoclonal antibody treatments to see how well the treatments are working. They found that all of the variants were resistant to some of the treatments and that BQ.1.1 was resistant to all of them.

The finding is alarming in one respect—BQ.1.1, along with BQ.1, currently comprise nearly half of all infections in the U.S. The good news is that because of the multi-pronged attack the medical community has taken against the virus, together with large numbers of people infected, overall numbers of infections are low.
The Omicron subvariants BA.1, BA.4, BA.5 as well as Q.1.1 have a high number of mutations in the spike protein. Some of these mutations are escape mutations that allow the virus to escape neutralization by antibodies. In addition, resistance to biotechnologically produced antibodies, which are administered to high-risk patients as a preventive measure or as therapy for a diagnosed SARS-CoV-2 infection, is also developing. Omicron sub-lineage BQ.1.1 is the first variant resistant to all antibody therapies currently approved by the EMA (European Medicines Agency) and/or FDA (US Food and Drug Administration). Credit: Markus Hoffmann, Deutsches Primatenzentrum

Also, monoclonal antibody treatments are typically only given to infected people with underlying conditions that are believed to be at great risk of serious complications from the disease. On the other hand, because of the unpredictable nature of the virus, no one really knows what this new development might mean for the progression of the pandemic—except for those unlucky people with underlying conditions who, in the near future, happen to catch the BQ1.1. version of COVID-19.

APA citation: Omicron variant BQ.1.1 found to be resistant to all monoclonal antibody treatments (2022, November 22) retrieved 26 November 2022 from https://medicalxpress.com/news/2022-11-omicron-variant-bq11-resistant-monoclonal.html

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.