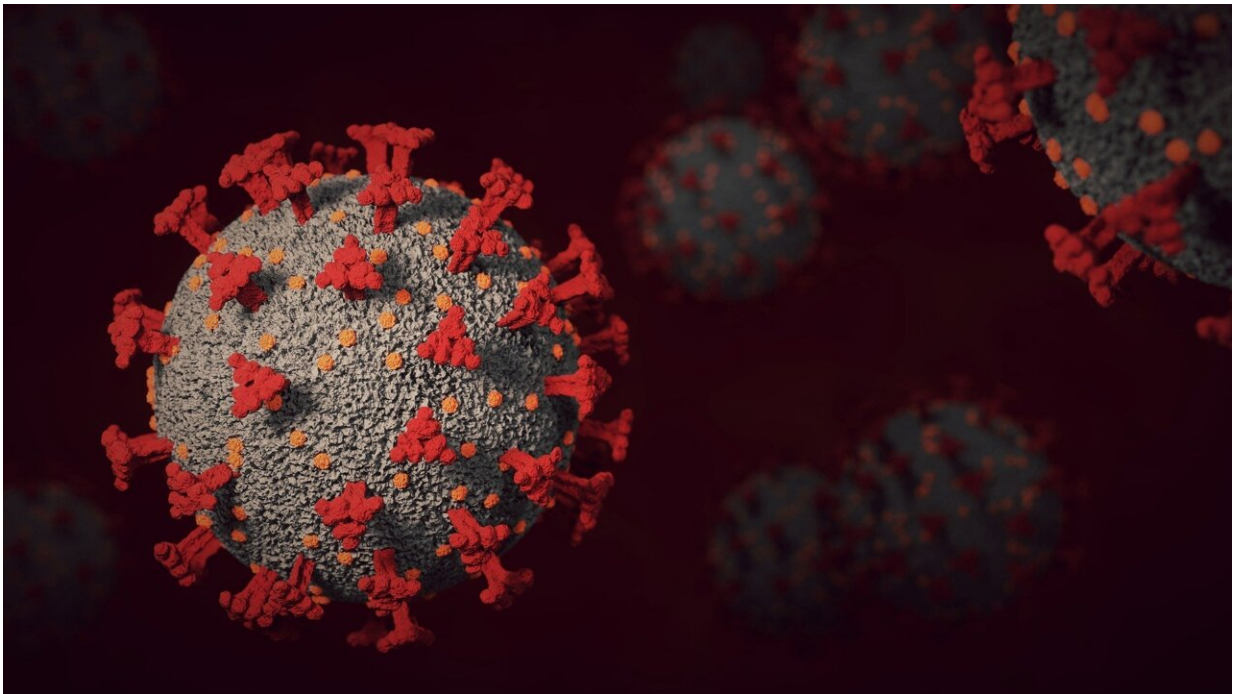


Study reveals fundamental changes in the omicron variant

January 5 2022



Credit: Pixabay/CC0 Public Domain

The omicron variant of SARS-CoV-2 represents a step-change in the COVID-19 pandemic with record numbers of new daily infections being reported around the globe. However, quite why omicron is spreading so rapidly remains unknown.

Now, researchers at the MRC-University of Glasgow Centre for Virus

Research have used laboratory experiments and real world infection data to investigate [omicron](#). Their work, published as a pre-print study, has revealed fundamental changes that are likely to be important for omicron spread and disease.

Researchers found in [laboratory tests](#) that omicron is largely unaffected by the antibodies provided by two doses of COVID-19 vaccine, but responses are improved by a third-dose booster. Importantly, this is confirmed by analysis of real world [infection](#) data; omicron escape immunity from two vaccine doses, but three doses restores good levels of protection.

The work also provides evidence that omicron has switched its route of entry in to [human cells](#), from cell surface fusion to cathepsin-dependent fusion within the endosome. This fundamental biological shift is likely to influence omicron spread and the types of cells it can hijack. These changes may also affect the pathogenesis and severity of disease, and researchers say they require further evaluation in population-based studies.

More information: The hyper-transmissible SARS-CoV-2 Omicron variant exhibits significant antigenic change, vaccine escape and a switch in cell entry mechanism:

www.gla.ac.uk/media/Media_829360_smxx.pdf

Provided by University of Glasgow

Citation: Study reveals fundamental changes in the omicron variant (2022, January 5) retrieved 18 April 2024 from

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