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Reporting Summary

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Statistics

For all statistical analyses, confirm that the following items are present in the figure legend, table legend, main text, or Methods section.

n/a Confirmed

- ☐ ☒ The exact sample size (n) for each experimental group/condition, given as a discrete number and unit of measurement
- ☐ ☒ A statement on whether measurements were taken from distinct samples or whether the same sample was measured repeatedly
- ☐ ☒ The statistical test(s) used AND whether they are one- or two-sided
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- ☐ ☒ A description of all covariates tested
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- ☐ ☒ A full description of the statistical parameters including central tendency (e.g. means) or other basic estimates (e.g. regression coefficient) AND variation (e.g. standard deviation) or associated estimates of uncertainty (e.g. confidence intervals)
- ☐ ☒ For null hypothesis testing, the test statistic (e.g. F , t , r) with confidence intervals, effect sizes, degrees of freedom and P value noted
Give P values as exact values whenever suitable.
- ☒ ☐ For Bayesian analysis, information on the choice of priors and Markov chain Monte Carlo settings
- ☒ ☐ For hierarchical and complex designs, identification of the appropriate level for tests and full reporting of outcomes
- ☐ ☒ Estimates of effect sizes (e.g. Cohen's d , Pearson's r), indicating how they were calculated

Our web collection on [statistics for biologists](#) contains articles on many of the points above.

Software and code

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Data collection Qualtrics

Data analysis Stata

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Data

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All manuscripts must include a [data availability statement](#). This statement should provide the following information, where applicable:

- Accession codes, unique identifiers, or web links for publicly available datasets
- A description of any restrictions on data availability
- For clinical datasets or third party data, please ensure that the statement adheres to our [policy](#)

The data that support the findings of this study are available from the corresponding author upon reasonable request.

Human research participants

Policy information about [studies involving human research participants and Sex and Gender in Research](#).

Reporting on sex and gender	We reported data on sex at birth, self reported. We present the sex distribution in our population. The questionnaire was completed by participants in English, where we used standard terminology for collecting such information. We do present associations between sex as a part of a logistic multivariate model. These are presented in Table 1, participant flow is presented in Figure 1.
Population characteristics	The mean age of those contributing data to analyses was 61.3 years (range 16.6–88.0), 70.7% were female, 96.4% identified their ethnic origin as White, and 88.4% were living in England.
Recruitment	Participants were invited via a national media campaign.
Ethics oversight	Leicester South Research Ethics Committee (ref 20/EM/0117)

Note that full information on the approval of the study protocol must also be provided in the manuscript.

Field-specific reporting

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☒ Life sciences ☐ Behavioural & social sciences ☐ Ecological, evolutionary & environmental sciences

Life sciences study design

All studies must disclose on these points even when the disclosure is negative.

Sample size	We estimated that a minimum sample size of 10,964 would be required to detect a difference of at least 2% in the proportion of exposed vs. unexposed participants experiencing a given binary outcome [equivalent to an odds ratio (OR) of 1.08], with 90% power, for a binary exposure with maximum variability (probability 0.50 changing to 0.52) and a moderate correlation ($R^2=0.4$) with other variables in a logistic regression model, using a two-sided test and 5% significance. This post-vaccination symptom analysis was a pragmatic study including all participants meeting the inclusion criteria, with no sample size specified.
Data exclusions	We excluded those who had no pre-vaccination serology ($n=6,343$) or who had not completed a full vaccination regimen ($n=2,273$). We also excluded those with missing data for independent variables required for minimal adjustment in the regression models ($n=177$).
Replication	Not applicable to an observational, real-world study.
Randomization	Not relevant because the study design is observational.
Blinding	Study participants were unaware of hypotheses being tested and reports of symptoms were given before antibody test results were fed back to them.

Reporting for specific materials, systems and methods

We require information from authors about some types of materials, experimental systems and methods used in many studies. Here, indicate whether each material, system or method listed is relevant to your study. If you are not sure if a list item applies to your research, read the appropriate section before selecting a response.

Materials & experimental systems

n/a	Involved in the study
☒	☐ Antibodies
☒	☐ Eukaryotic cell lines
☒	☐ Palaeontology and archaeology
☒	☐ Animals and other organisms
☐	☒ Clinical data
☒	☐ Dual use research of concern

Methods

n/a	Involved in the study
☒	☐ ChIP-seq
☒	☐ Flow cytometry
☒	☐ MRI-based neuroimaging

Clinical data

Policy information about [clinical studies](#)

All manuscripts should comply with the ICMJE [guidelines for publication of clinical research](#) and a completed [CONSORT checklist](#) must be included with all submissions.

Clinical trial registration	NCT04330599
Study protocol	Available at https://clinicaltrials.gov/ct2/show/NCT04330599
Data collection	The study was nested within COVIDENCE UK, which is a prospective longitudinal population-based observational study of coronavirus disease in the UK population (www.qmul.ac.uk/covidence). The study was launched on 1st May 2020, and closed to enrolment on 6th October 2021. This paper reports findings from analyses of data collected up to 1st September 2021.
Outcomes	Predefined outcomes were specified in study protocol.