

Supplementary Appendix for ‘Anti-SARS-CoV2 antibody responses are impaired in patients with inflammatory bowel disease treated with infliximab’

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Supplementary Table S1: Contributors to the CLARITY IBD study

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	Janine	Mallinson
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	Kelly	Andrews
	Caroline	Mulvaney Jones
	Julia	Roberts

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Supplementary Table S2: Baseline characteristics stratified by baseline characteristics after propensity matching by inflammatory bowel disease (IBD) subtype, immunomodulator use, cancer, age, active IBD and comorbidities

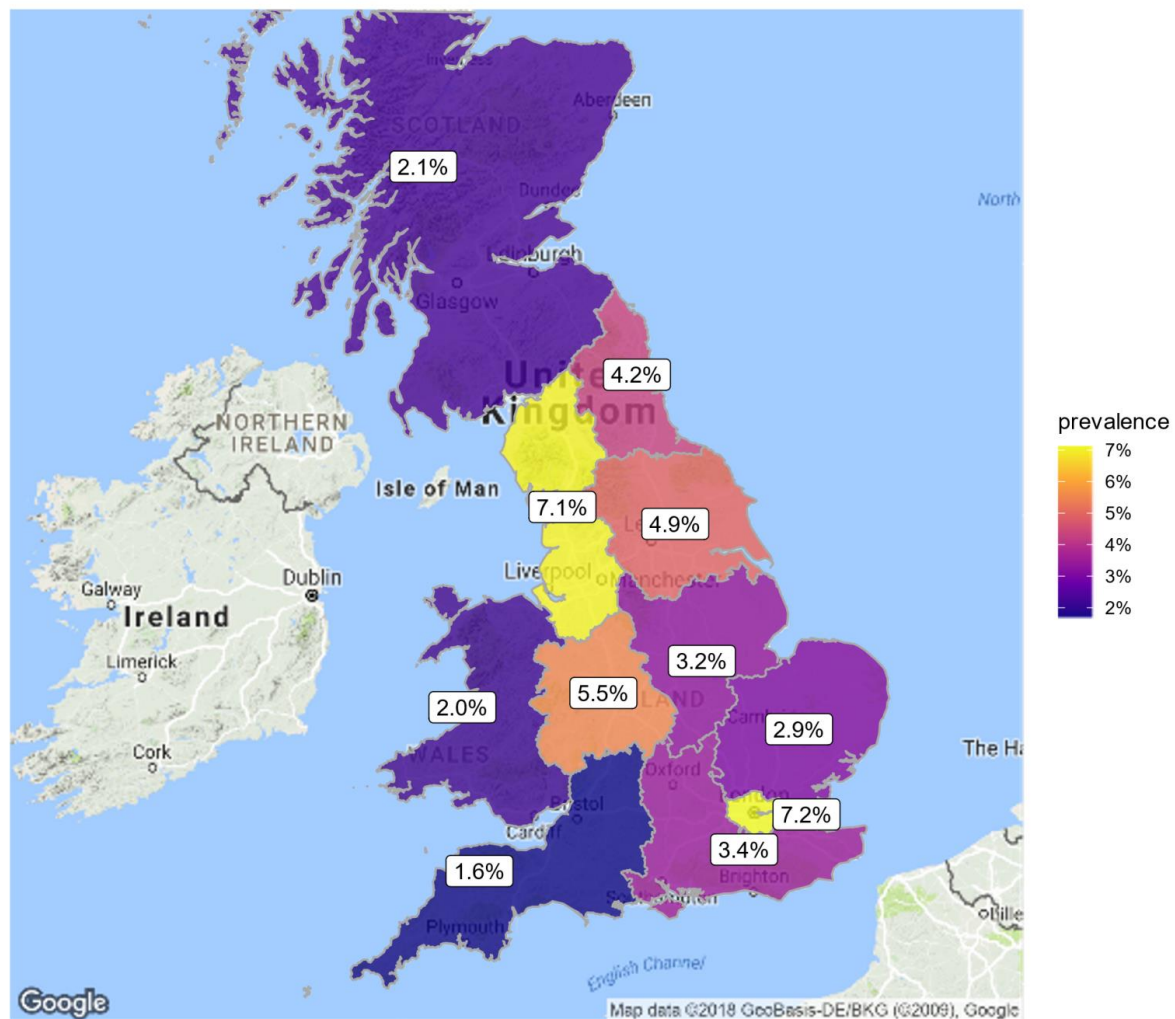
Variable		Positive	Negative	p
Positive serology to SARS-CoV-2	Positive	3.9% (67/1704)	6.2% (105/1707)	0.0037
	Negative	96.1% (1637/1704)	93.8% (1602/1707)	
Age (years)		41.7 (31.1 - 55.6)	41.4 (31.1 - 56.1)	0.91
Sex	Female	46.4% (791/1704)	50.2% (857/1707)	0.023
	Male	53.6% (913/1704)	49.7% (848/1707)	
	Intersex	0.0% (0/1704)	0.1% (1/1707)	
	Prefer not to say	0.0% (0/1704)	0.1% (1/1707)	
Ethnicity	White	88.6% (1510/1704)	88.1% (1504/1707)	0.99
	Asian	7.1% (121/1704)	7.4% (127/1707)	
	Mixed	2.3% (40/1704)	2.3% (39/1707)	
	Black	1.2% (21/1704)	1.3% (23/1707)	
	Other	0.7% (12/1704)	0.8% (14/1707)	
Diagnosis	Crohn's disease	43.4% (739/1704)	43.4% (740/1707)	1.0
	Ulcerative colitis	53.2% (907/1704)	53.3% (909/1707)	
	IBD-unclassified	3.4% (58/1704)	3.4% (58/1707)	
Duration of IBD (years)		8.0 (3.0 - 15.0)	9.0 (4.0 - 16.0)	0.0010
Age at IBD diagnosis (years)		29.8 (21.5 - 42.8)	29.0 (20.8 - 41.8)	0.29
Immunomodulators at recruitment		23.4% (399/1704)	23.5% (401/1707)	0.97
5-ASA at recruitment		32.4% (552/1704)	33.4% (570/1707)	0.54
Steroids in 2020		19.5% (333/1704)	21.7% (370/1707)	0.13
BMI		25.2 (22.1 - 28.6)	24.8 (21.9 - 28.4)	0.52
Heart disease		3.6% (61/1704)	3.3% (57/1707)	0.71
Diabetes		5.3% (91/1704)	5.7% (97/1707)	0.71
Lung disease		16.0% (272/1704)	16.0% (273/1707)	1.0
Kidney disease		1.2% (20/1704)	1.8% (30/1707)	0.20
Cancer		0.5% (8/1704)	0.5% (8/1707)	1.0
Smoker	Yes	11.5% (196/1704)	10.3% (175/1707)	0.48
	Not currently	32.2% (549/1704)	32.3% (551/1707)	
	Never	56.3% (959/1704)	57.5% (981/1707)	
Meets clinical criteria for suspected or probable COVID-19		9.4% (161/1704)	9.0% (154/1707)	0.68
Tested with PCR for SARS-CoV-2		37.9% (645/1704)	38.4% (656/1707)	0.75
Positive PCR for SARS-CoV-2		5.6% (37/645)	4.8% (31/656)	0.46
Positive PCR for SARS-CoV-2 at least 2 weeks prior to serum sample		5.6% (33/586)	4.8% (29/610)	0.52
Hospitalised for confirmed COVID-19		0.4% (6/1704)	0.2% (4/1707)	0.55
Shielding behaviour Apr-Jul	I remained in my house or garden	32.3% (550/1704)	34.2% (583/1706)	0.20
	I only left the house for exercise on my own or with members of my household	38.8% (661/1704)	40.2% (686/1706)	
	I encountered people from outside of my household but <i>maintained social distancing</i>	26.6% (454/1704)	23.6% (403/1706)	
	I encountered people from outside of my household but <i>did not maintain social distancing</i>	2.3% (39/1704)	2.0% (34/1706)	
Exposure to documented cases of COVID-19		11.5% (196/1703)	11.0% (188/1707)	0.66
PHQ8		4.0 (1.0 - 9.0)	5.0 (1.0 - 9.0)	0.035
GAD7		3.0 (0.0 - 7.0)	3.0 (0.0 - 7.0)	0.17
Income deprivation score		0.1 (0.1 - 0.2)	0.1 (0.1 - 0.2)	0.049
Active disease (PRO2)		10.9% (185/1704)	10.4% (178/1707)	0.70
IBD Control 8		13.0 (9.0 - 16.0)	13.0 (9.0 - 16.0)	0.40
IBD Control VAS		79.0 (63.8 - 92.0)	79.0 (62.0 - 92.0)	0.21

Values shown are medians (interquartile range) and percentages (proportions) as appropriate.

Abbreviations: IBD = inflammatory bowel disease, 5-ASA = aminosalicylates, BMI = Body Mass Index, COVID-19 = coronavirus, PCR = polymerase chain reaction, SARS-CoV-2 = severe acute respiratory syndrome coronavirus 2, PHQ8 = Patient Health Questionnaire depression scale, GAD7 = General Anxiety Disorder assessment, PRO2 = Patient Reported Outcome, VAS = Visual Analogue Scale

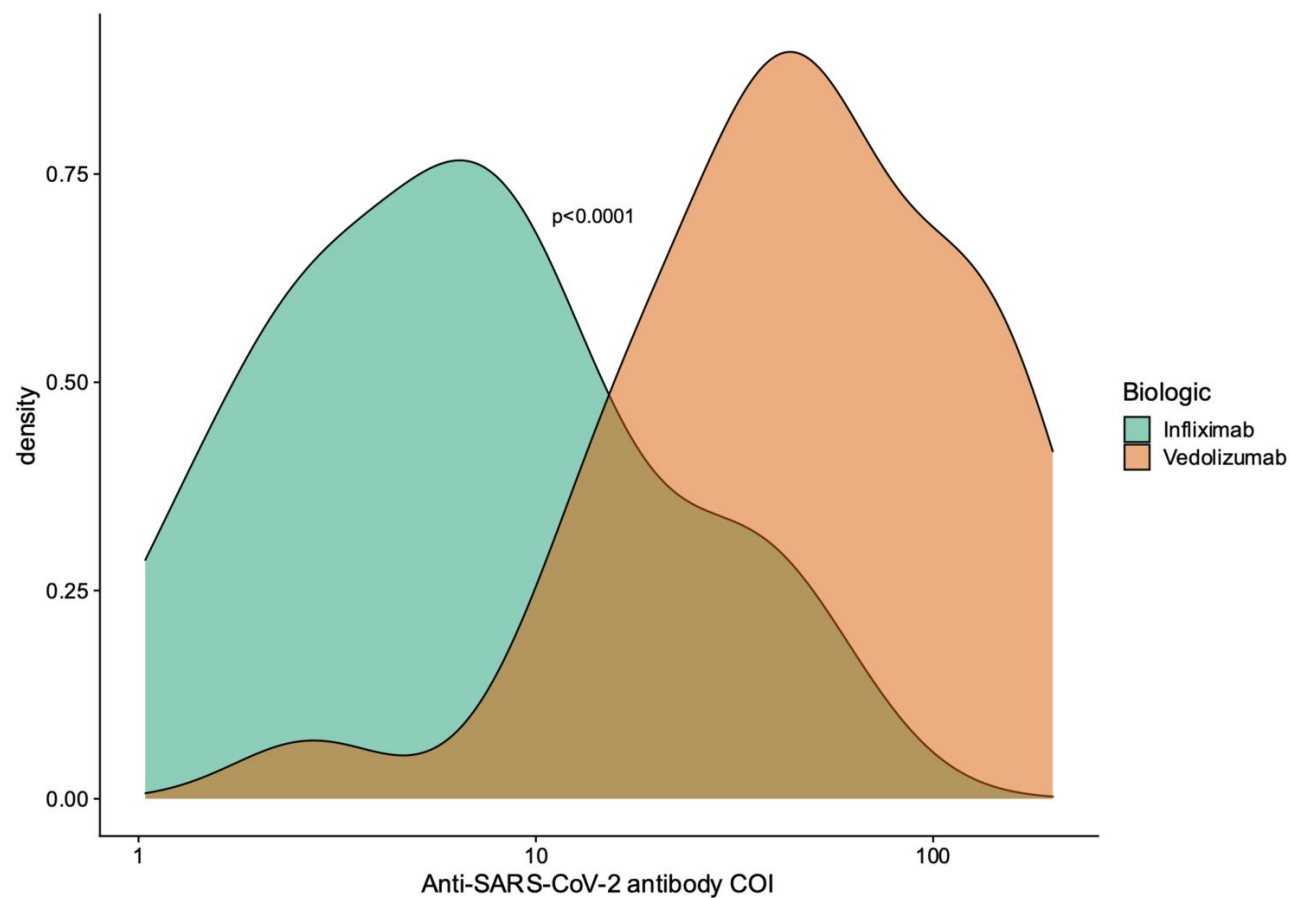
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Supplementary Figure S1: Regional seroprevalence of SARS-CoV-2 by NUTS1 region



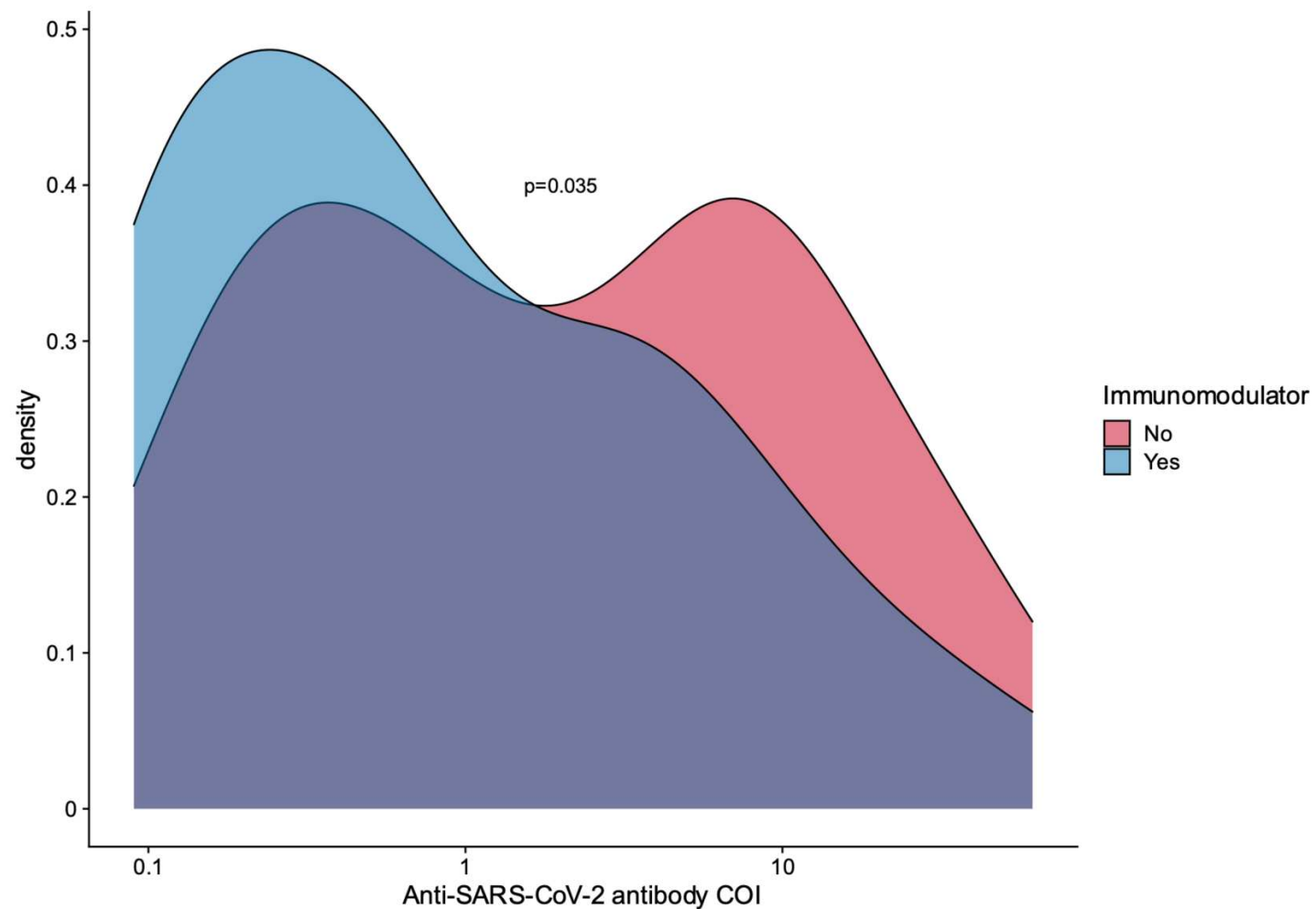
Abbreviations: SARS-CoV-2 = severe acute respiratory syndrome coronavirus 2, NUTS = Nomenclature of territorial units for statistic

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Supplementary Figure S2: Magnitude of antibody reactivity to SARS-CoV-2 in participants who had a positive PCR to SARS-CoV-2 at least two weeks earlier and positive anti-SARS-CoV-2 serology (≥ 1 COI), stratified by choice of biologic



Abbreviations: PCR = polymerase chain reaction, SARS-CoV-2 = severe acute respiratory syndrome coronavirus 2, COI = Cut-Off Index

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Supplementary Figure S3: Magnitude of antibody reactivity to SARS-CoV-2 in participants treated with infliximab who had a positive PCR to SARS-CoV-2 at least two weeks earlier, stratified by immunomodulator use



Abbreviations: SARS-CoV-2 = severe acute respiratory syndrome coronavirus 2, COI = Cut-Off Index; PCR = polymerase chain reaction