

Supplemental Online Content

Accorsi EK, Britton A, Fleming-Dutra KE, et al. Association between 3 doses of mRNA COVID-19 vaccine and symptomatic infection caused by the SARS-CoV-2 Omicron and Delta variants. *JAMA*. Published online January 21, 2022. doi:10.1001/jama.2022.0470

eTable 1. S-gene target failure and variant lineages among 17,620 positive SARS-CoV-2 tests whole genome sequenced in the Increasing Community Access to Testing platform between December 10, 2021, and January 1, 2022

eTable 2. Cycle threshold (Ct) values among 23,391 positive SARS-CoV-2 tests performed in the Increasing Community Access to Testing platform between December 10, 2021, and January 1, 2022

This supplemental material has been provided by the authors to give readers additional information about their work.

eTable 1. S-gene target failure and variant lineages among 17,620 positive SARS-CoV-2 tests whole genome sequenced in the Increasing Community Access to Testing platform between December 10, 2021, and January 1, 2022

	Lineages B.1.1.529 and BA.1 (Omicron) ^a	Lineages B.1.617.2 and AY (Delta) ^b	Other lineages ^c
S-gene target failure^d	6728	21	52
Non-S-gene target failure	1336	9369	114
Total	8064	9390	166

^a Omicron lineages include B.1.1.529 and BA.1. No BA.2 lineages were identified among whole genome sequenced samples.

^b Delta lineages included AY.1, AY.3, AY.3.1, AY.4, AY.4.2, AY.4.2.2, AY.4.2.3, AY.4.5, AY.5, AY.5.3, AY.7, AY.9.2, AY.13, AY.14, AY.16, AY.20, AY.25, AY.25.1, AY.26, AY.27, AY.33, AY.34, AY.34.1, AY.35, AY.36, AY.37, AY.39, AY.39.1, AY.39.2, AY.42, AY.43, AY.43.3, AY.44, AY.45, AY.46, AY.46.1, AY.46.2, AY.46.4, AY.46.6, AY.47, AY.49, AY.54, AY.58, AY.59, AY.64, AY.65, AY.73, AY.74, AY.75, AY.77, AY.78, AY.79, AY.83, AY.84, AY.85, AY.92, AY.98, AY.98.1, AY.99, AY.99.1, AY.99.2, AY.100, AY.102, AY.103, AY.105, AY.106, AY.107, AY.108, AY.109, AY.110, AY.111, AY.113, AY.114, AY.116.1, AY.117, AY.118, AY.119, AY.119.1, AY.120, AY.120.1, AY.120.2, AY.120.2.1, AY.121, AY.122, AY.122.1, AY.124, AY.125, AY.126, AY.127, B.1.617.2.

^c Other lineages identified in this dataset included B, B.1, B.1.1, B.1.1.409, B.1.350, B.1.627, B.6, B.55, C.36.3.1.

^d SARS-CoV-2 positive samples were considered to have S-gene target failure (SGTF) if they had Ct values for the *N* and *ORF1ab* genes, but not for the *S* gene, otherwise samples were considered not to have SGTF. SGTF was used as a proxy for the Omicron variant. Samples without SGTF were presumed to be Delta. Using this algorithm SGTF was 83.4% sensitive and 99.2% specific for the Omicron variant.

eTable 2. Cycle threshold (Ct) values among 23,391 positive SARS-CoV-2 tests performed in the Increasing Community Access to Testing platform between December 10, 2021, and January 1, 2022

Ct Type	Variant	Group one ^a	Group one median Ct	Group two ^a	Group two median Ct	Q-value	Difference of medians (95% CI) ^b	Log difference in medians
N Gene	Delta	Three Doses	19.07	Two Doses	17.52	<0.001	1.56 (0.95, 2.07)	0.09
N Gene	Delta	Three Doses	19.07	Unvaccinated	18.28	<0.001	0.80 (0.19, 1.33)	0.04
N Gene	Delta	Two Doses	17.52	Unvaccinated	18.28	<0.001	-0.76 (-1.08, -0.42)	-0.04
N Gene	Omicron	Three Doses	19.35	Two Doses	18.52	<0.001	0.83 (0.51, 1.20)	0.04
N Gene	Omicron	Three Doses	19.35	Unvaccinated	18.71	0.0017	0.65 (0.28, 1.03)	0.03
N Gene	Omicron	Two Doses	18.52	Unvaccinated	18.71	0.0031	-0.19 (-0.49, 0.09)	-0.01
ORF1ab	Delta	Three Doses	18.70	Two Doses	17.28	<0.001	1.43 (0.92, 2.07)	0.08
ORF1ab	Delta	Three Doses	18.70	Unvaccinated	17.84	<0.001	0.87 (0.28, 1.51)	0.05
ORF1ab	Delta	Two Doses	17.28	Unvaccinated	17.84	<0.001	-0.56 (-0.95, -0.30)	-0.03
ORF1ab	Omicron	Three Doses	19.25	Two Doses	18.40	<0.001	0.85 (0.45, 1.26)	0.05
ORF1ab	Omicron	Three Doses	19.25	Unvaccinated	18.58	<0.001	0.67 (0.23, 1.12)	0.04
ORF1ab	Omicron	Two Doses	18.40	Unvaccinated	18.58	0.0101	-0.18 (-0.49, 0.13)	-0.01
S Gene	Delta	Three Doses	23.62	Two Doses	20.24	<0.001	3.38 (2.74, 3.98)	0.15
S Gene	Delta	Three Doses	23.62	Unvaccinated	19.58	<0.001	4.05 (3.46, 4.61)	0.19
S Gene	Delta	Two Doses	20.24	Unvaccinated	19.58	0.0023	0.67 (0.29, 1.04)	0.03

^a Three doses were from persons ≥ 14 days post dose 3 with ≥ 6 months between doses 2 and 3. Two doses were from persons ≥ 6 months after dose 2 (i.e., eligible for a booster dose).

^b The 95% confidence interval for the difference of the medians of the two groups was calculated via bootstrapping.