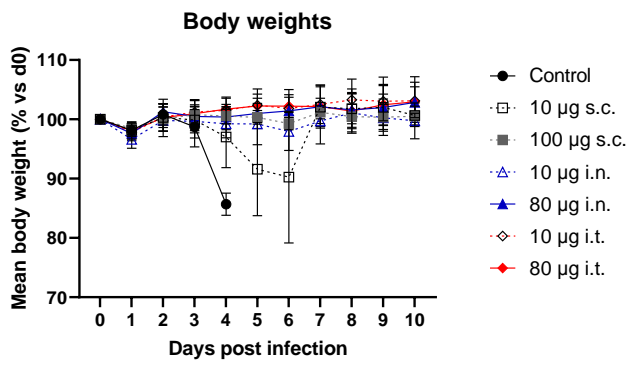
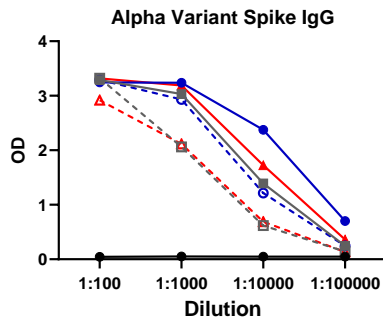


Figure S1

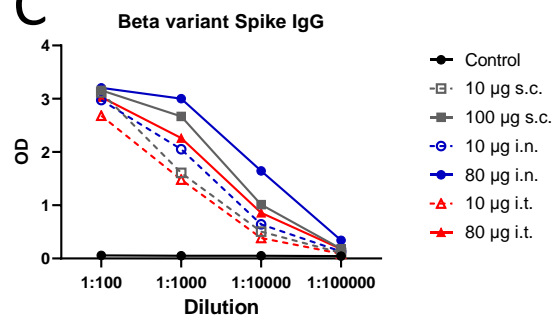
A



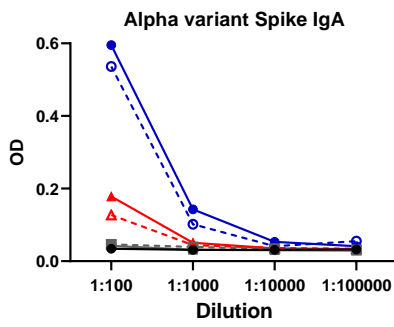
B



C



D



E

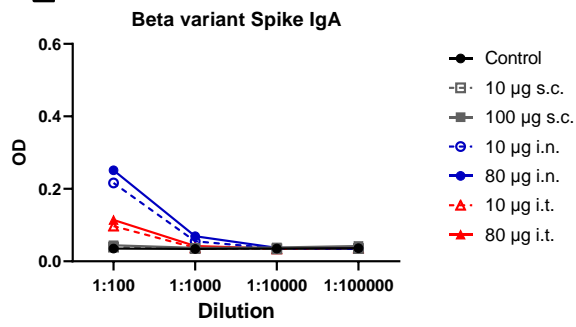
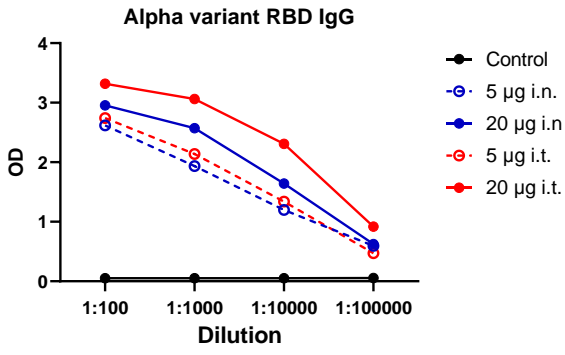
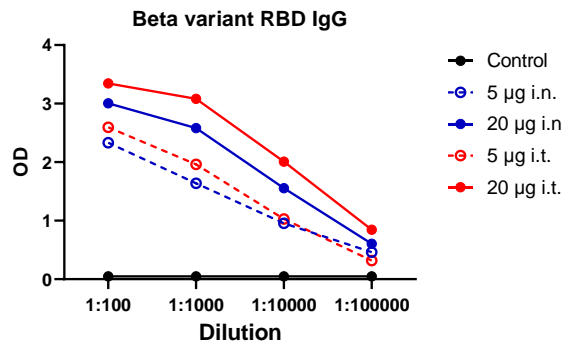


Figure S2

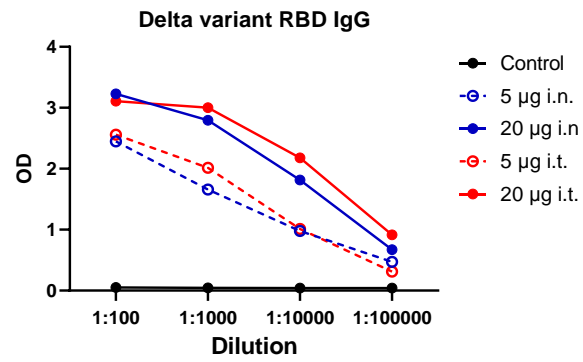
A



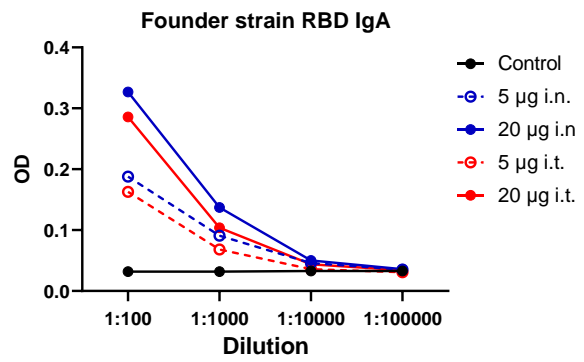
B



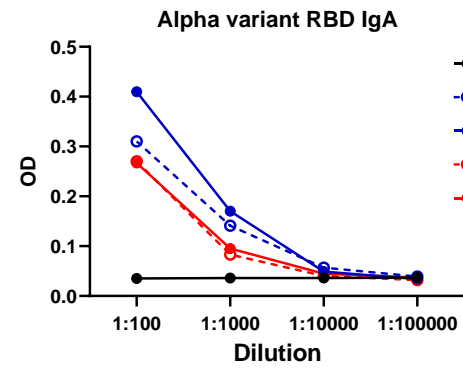
C



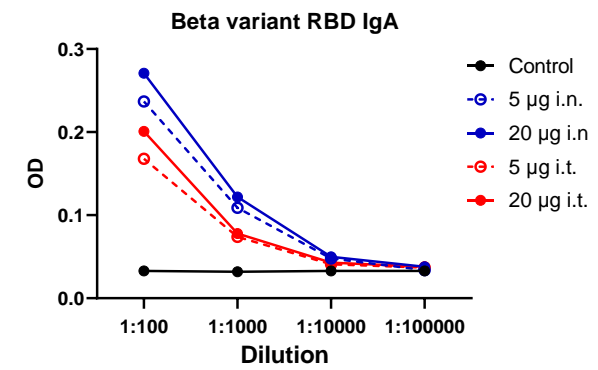
D



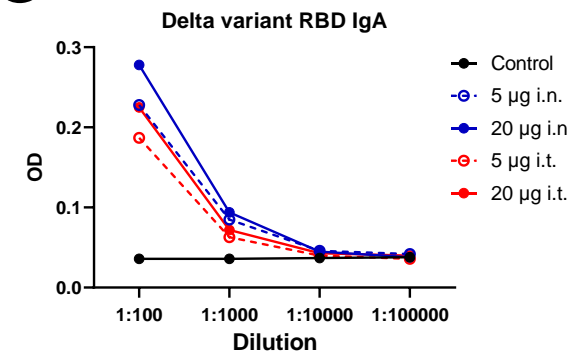
E



F



G



H

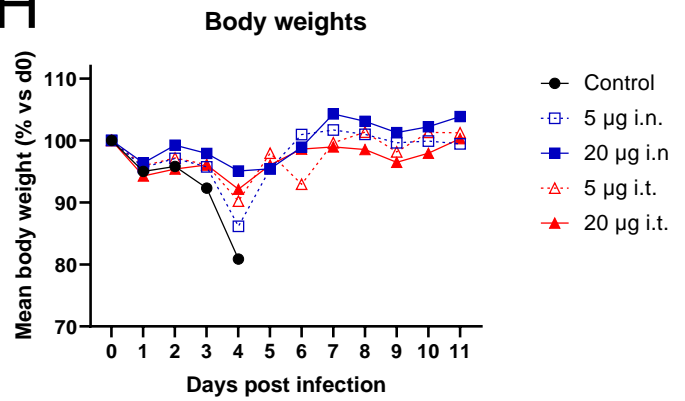


Figure S3

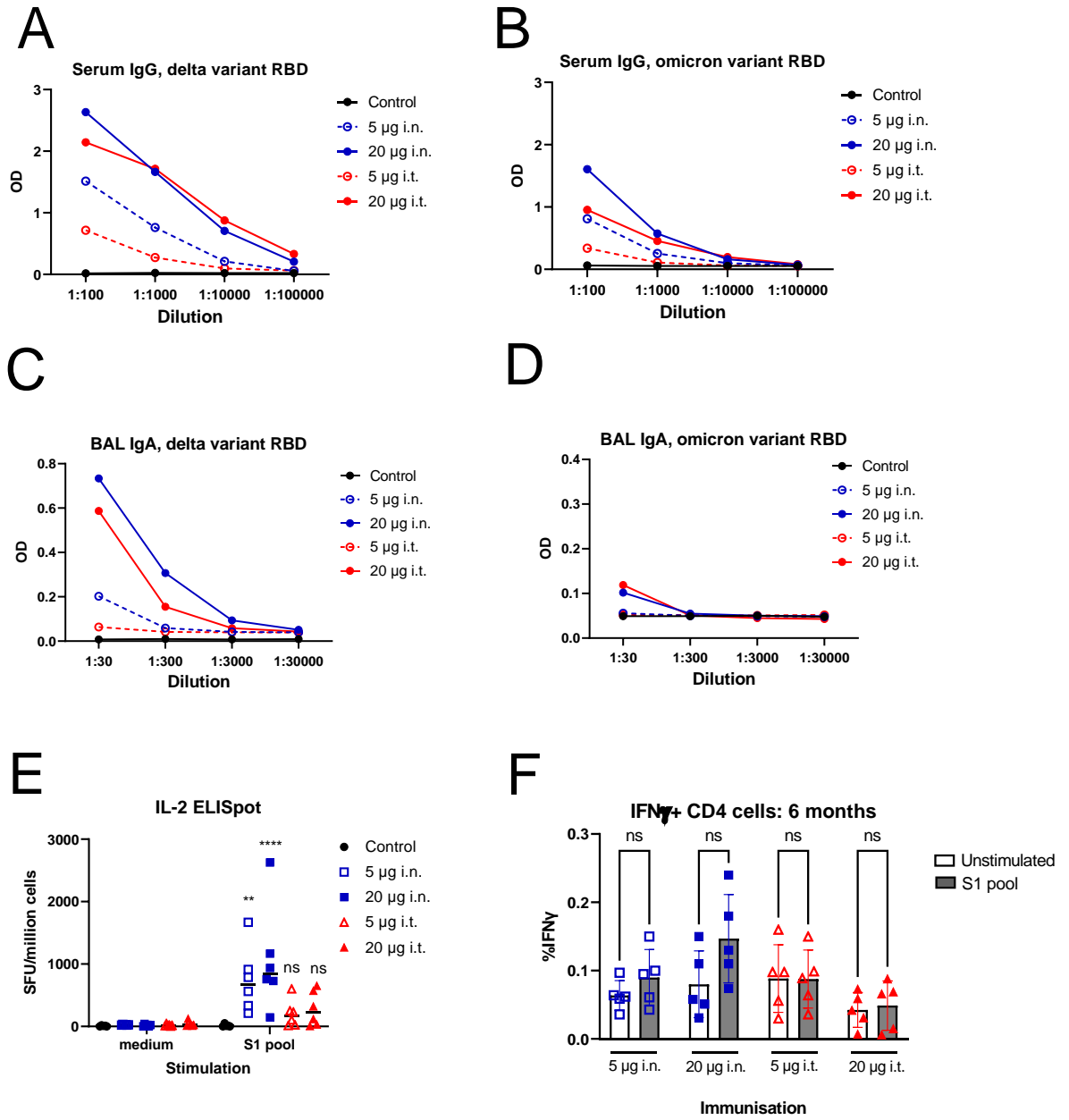


Table S1

Group	Antigen	Adjuvant	<i>n</i> at 1st immunisation	<i>n</i> at challenge
Control	Non-vaccinated	n/a	8	8
Low dose sub cutaneous	10 µg trimeric spike	10 µg poly I:C 40 µg ATRA	7	7
High dose sub cutaneous	100 µg trimeric spike	10 µg poly I:C 40 µg ATRA	8	7
Low dose intranasal	10 µg trimeric spike	10 µg poly I:C 40 µg ATRA	8	8
High dose intranasal	80 µg trimeric spike	10 µg poly I:C 40 µg ATRA	8	8
Low dose intratracheal	10 µg trimeric spike	10 µg poly I:C 40 µg ATRA	8	7
High dose intratracheal	80 µg trimeric spike	10 µg poly I:C 40 µg ATRA	8	5

Table S2

Dose Group	Control	10 µg s.c.	100 µg s.c.	10 µg i.n.	80 µg i.n.	10 µg i.t.	80 µg i.t.
No. animals	8	7	7	8	8	7	5
Piriform cortex, neuronal necrosis	3	5	2	-	-	-	-
minimal	2	2	1	-	-	-	-
slight	1	3	1	-	-	-	-
Meninges, perivascular, inflammatory cell infiltration	8	6	3	-	-	-	-
minimal	5	2	1	-	-	-	-
slight	3	3	2	-	-	-	-
moderate	-	1	-	-	-	-	-
Parenchyma, perivascular, inflammatory cell infiltration	8	5	2	-	-	-	-
minimal	7	2	-	-	-	-	-
slight	1	3	2	-	-	-	-

Table S2

Group	Antigen	Adjuvant	<i>n</i> at 1st immunisation	<i>n</i> for challenge
Control	Non-vaccinated	n/a	11	11
Low dose intranasal	2.5 µg alpha variant Spike S1 + 2.5 µg beta variant Spike S1	10 µg polyICLC	11	11
High dose intranasal	10 µg alpha variant Spike S1 + 10 µg beta variant Spike S1	10 µg polyICLC	11	7
Low dose intratracheal	2.5 µg alpha variant Spike S1 + 2.5 µg beta variant Spike S1	10 µg polyICLC	11	11
High dose intratracheal	10 µg alpha variant Spike S1 + 10 µg beta variant Spike S1	10 µg polyICLC	11	11

Table S3

Group	Antigen	Adjuvant	<i>n</i>, 28 day study	<i>n</i>, 6 month study
Control	Non-vaccinated	n/a	5	0
Low dose intranasal	5 µg alpha variant Spike S1	10 µg polyICLC	6	5
High dose intranasal	20 µg alpha variant Spike S1	10 µg polyICLC	6	5
Low dose intratracheal	5 µg alpha variant Spike S1	10 µg polyICLC	6	5
High dose intratracheal	20 µg alpha variant Spike S1	10 µg polyICLC	6	5