

**Supplemental Table 1. Statistical analysis of viral titers in Calu3 cells cultured at 37°C and 33°C.**

	Tukey's multiple comparisons test	Significant?	Summary	p value
24h	CA/07 37°C vs. CA/07 33°C	Yes	****	< 0.0001
	OH/09 37°C vs. OH/09 33°C	Yes	***	0.0003
	IA/39 37°C vs. IA/39 33°C	Yes	*	0.0329
	MN/19 37°C vs. MN/19 33°C	Yes	****	< 0.0001
	BRIS/59 37°C vs. BRIS/59 33°C	Yes	***	0.0001
	MN/45 37°C vs. MN/45 33°C	Yes	**	0.0011
	WI/71 37°C vs. WI/71 33°C	Yes	*	0.0171
	OH/02 37°C vs. OH/02 33°C	No	ns	0.0599
TX/14 37°C vs TX/14 33°C	No	ns	0.1982	
48h	CA/07 37°C vs. CA/07 33°C	No	ns	0.9883
	OH/09 37°C vs. OH/09 33°C	No	ns	> 0.9999
	IA/39 37°C vs. IA/39 33°C	No	ns	> 0.9999
	MN/19 37°C vs. MN/19 33°C	No	ns	> 0.9999
	BRIS/59 37°C vs. BRIS/59 33°C	No	ns	> 0.9999
	MN/45 37°C vs. MN/45 33°C	No	ns	0.9731
	WI/71 37°C vs. WI/71 33°C	No	ns	0.8041
	OH/02 37°C vs. OH/02 33°C	No	ns	> 0.9999
TX/14 37°C vs TX/14 33°C	No	ns	0.924	
72h	CA/07 37°C vs. CA/07 33°C	No	ns	> 0.9999
	OH/09 37°C vs. OH/09 33°C	No	ns	> 0.9999
	IA/39 37°C vs. IA/39 33°C	No	ns	0.9998
	MN/19 37°C vs. MN/19 33°C	No	ns	0.9995
	BRIS/59 37°C vs. BRIS/59 33°C	No	ns	> 0.9999
	MN/45 37°C vs. MN/45 33°C	No	ns	> 0.9999
	WI/71 37°C vs. WI/71 33°C	No	ns	> 0.9999
	OH/02 37°C vs. OH/02 33°C	No	ns	> 0.9999
TX/14 37°C vs TX/14 33°C	No	ns	0.9937	

Statistical analysis was done using two-way ANOVA with Tukey's post-test.

**Supplemental Table 2. Replication kinetics differences between tested viruses.**

		33°C			
		Tukey's multiple comparisons test	Significant?	Summary	Adjusted P Value
24 h time point	CA/07 vs. OH/09	Yes	****	< 0.0001	
	CA/07 vs. IA/39	No	ns	> 0.9999	
	CA/07 vs. MN/19	Yes	**	0.0019	
	CA/07 vs. BRIS/59	No	ns	0.065	
	CA/07 vs. MN/45	No	ns	0.8949	
	CA/07 vs. WI/71	Yes	**	0.0028	
	CA/07 vs. OH/02	No	ns	0.9229	
	CA/07 vs. TX/14	Yes	***	0.0001	
	OH/09 vs. IA/39	Yes	****	< 0.0001	
	OH/09 vs. MN/19	No	ns	0.925	
	OH/09 vs. BRIS/59	No	ns	0.3613	
	OH/09 vs. MN/45	Yes	**	0.0093	
	OH/09 vs. WI/71	No	ns	0.8937	
	OH/09 vs. OH/02	Yes	**	0.0074	
	OH/09 vs. TX/14	No	ns	0.999	
	IA/39 vs. MN/19	Yes	**	0.0081	
	IA/39 vs. BRIS/59	No	ns	0.127	
	IA/39 vs. MN/45	No	ns	0.9113	
	IA/39 vs. WI/71	Yes	*	0.0109	
	IA/39 vs. OH/02	No	ns	0.9332	
	IA/39 vs. TX/14	Yes	***	0.0009	
	MN/19 vs. BRIS/59	No	ns	0.9936	
	MN/19 vs. MN/45	No	ns	0.3371	
	MN/19 vs. WI/71	No	ns	> 0.9999	
	MN/19 vs. OH/02	No	ns	0.2979	
	MN/19 vs. TX/14	No	ns	0.9997	
	BRIS/59 vs. MN/45	No	ns	0.9116	
	BRIS/59 vs. WI/71	No	ns	0.9969	
	BRIS/59 vs. OH/02	No	ns	0.8857	
	BRIS/59 vs. TX/14	No	ns	0.8426	
MN/45 vs. WI/71	No	ns	0.3915		
MN/45 vs. OH/02	No	ns	> 0.9999		
MN/45 vs. TX/14	No	ns	0.0848		
WI/71 vs. OH/02	No	ns	0.3491		
WI/71 vs. TX/14	No	ns	0.9992		
OH/02 vs. TX/14	No	ns	0.0709		
48h time point	CA/07 vs. OH/09	Yes	****	< 0.0001	
	CA/07 vs. IA/39	Yes	***	0.0003	

		37°C			
		Tukey's multiple comparisons test	Significant?	Summary	Adjusted P Value
24 h time point	CA/07 vs. OH/9	Yes	****	< 0.0001	
	CA/07 vs. IA/39	No	ns	0.9973	
	CA/07 vs. MN/19	Yes	****	< 0.0001	
	CA/07 vs. BRIS/59	Yes	****	< 0.0001	
	CA/07 vs. MN/45	No	ns	0.1974	
	CA/07 vs. WI/71	Yes	****	< 0.0001	
	CA/07 vs. OH/02	No	ns	0.9918	
	CA/07 vs. TX/14	Yes	****	< 0.0001	
	OH/9 vs. IA/39	Yes	****	< 0.0001	
	OH/9 vs. MN/19	No	ns	> 0.9999	
	OH/9 vs. BRIS/59	No	ns	0.1038	
	OH/9 vs. MN/45	Yes	****	< 0.0001	
	OH/9 vs. WI/71	Yes	*	0.0435	
	OH/9 vs. OH/02	Yes	****	< 0.0001	
	OH/9 vs. TX/14	Yes	*	0.0386	
	IA/39 vs. MN/19	Yes	****	< 0.0001	
	IA/39 vs. BRIS/59	Yes	****	< 0.0001	
	IA/39 vs. MN/45	No	ns	0.0807	
	IA/39 vs. WI/71	Yes	****	< 0.0001	
	IA/39 vs. OH/02	No	ns	0.8427	
	IA/39 vs. TX/14	Yes	****	< 0.0001	
	MN/19 vs. BRIS/59	Yes	*	0.0255	
	MN/19 vs. MN/45	Yes	****	< 0.0001	
	MN/19 vs. WI/71	Yes	**	0.0091	
	MN/19 vs. OH/02	Yes	****	< 0.0001	
	MN/19 vs. TX/14	Yes	**	0.0079	
	BRIS/59 vs. MN/45	No	ns	0.2585	
	BRIS/59 vs. WI/71	No	ns	> 0.9999	
	BRIS/59 vs. OH/02	Yes	**	0.0047	
	BRIS/59 vs. TX/14	No	ns	> 0.9999	
MN/45 vs. WI/71	No	ns	0.4538		
MN/45 vs. OH/02	No	ns	0.9047		
MN/45 vs. TX/14	No	ns	0.4819		
WI/71 vs. OH/02	Yes	*	0.014		
WI/71 vs. TX/14	No	ns	> 0.9999		
OH/02 vs. TX/14	Yes	*	0.0159		
48h time point	CA/07 vs. OH/9	Yes	****	< 0.0001	
	CA/07 vs. IA/39	Yes	**	0.0011	

	CA/07 vs. MN/19	Yes	****	< 0.0001
	CA/07 vs. BRIS/59	Yes	****	< 0.0001
	CA/07 vs. MN/45	Yes	*	0.0325
	CA/07 vs. WI/71	Yes	****	< 0.0001
	CA/07 vs. OH/02	Yes	****	< 0.0001
	CA/07 vs. TX/14	Yes	****	< 0.0001
	OH/09 vs. IA/39	No	ns	0.8053
	OH/09 vs. MN/19	No	ns	0.4651
	OH/09 vs. BRIS/59	No	ns	0.9954
	OH/09 vs. MN/45	No	ns	0.1299
	OH/09 vs. WI/71	No	ns	0.9998
	OH/09 vs. OH/02	No	ns	0.9996
	OH/09 vs. TX/14	No	ns	> 0.9999
	IA/39 vs. MN/19	Yes	**	0.0073
	IA/39 vs. BRIS/59	No	ns	0.2338
	IA/39 vs. MN/45	No	ns	0.9719
	IA/39 vs. WI/71	No	ns	0.409
	IA/39 vs. OH/02	No	ns	0.9916
	IA/39 vs. TX/14	No	ns	0.9119
	MN/19 vs. BRIS/59	No	ns	0.9561
	MN/19 vs. MN/45	Yes	****	< 0.0001
	MN/19 vs. WI/71	No	ns	0.849
	MN/19 vs. OH/02	No	ns	0.1274
	MN/19 vs. TX/14	No	ns	0.3163
	BRIS/59 vs. MN/45	Yes	**	0.0097
	BRIS/59 vs. WI/71	No	ns	> 0.9999
	BRIS/59 vs. OH/02	No	ns	0.8455
	BRIS/59 vs. TX/14	No	ns	0.9765
	MN/45 vs. WI/71	Yes	*	0.0256
	MN/45 vs. OH/02	No	ns	0.4705
	MN/45 vs. TX/14	No	ns	0.2194
	WI/71 vs. OH/02	No	ns	0.9546
	WI/71 vs. TX/14	No	ns	0.9976
	OH/02 vs. TX/14	No	ns	> 0.9999
72h time point	CA/07 vs. OH/09	Yes	****	< 0.0001
	CA/07 vs. IA/39	Yes	***	0.0005
	CA/07 vs. MN/19	Yes	****	< 0.0001
	CA/07 vs. BRIS/59	Yes	****	< 0.0001
	CA/07 vs. MN/45	Yes	*	0.0154
	CA/07 vs. WI/71	Yes	****	< 0.0001
	CA/07 vs. OH/02	Yes	****	< 0.0001
	CA/07 vs. TX/14	Yes	****	< 0.0001

	CA/07 vs. MN/19	Yes	****	< 0.0001
	CA/07 vs. BRIS/59	Yes	****	< 0.0001
	CA/07 vs. MN/45	Yes	****	< 0.0001
	CA/07 vs. WI/71	Yes	****	< 0.0001
	CA/07 vs. OH/02	Yes	****	< 0.0001
	CA/07 vs. TX/14	Yes	***	0.0007
	OH/9 vs. IA/39	Yes	*	0.0154
	OH/9 vs. MN/19	No	ns	0.9953
	OH/9 vs. BRIS/59	No	ns	> 0.9999
	OH/9 vs. MN/45	No	ns	0.1452
	OH/9 vs. WI/71	No	ns	0.3303
	OH/9 vs. OH/02	No	ns	0.994
	OH/9 vs. TX/14	Yes	*	0.0218
	IA/39 vs. MN/19	Yes	***	0.0006
	IA/39 vs. BRIS/59	Yes	*	0.0394
	IA/39 vs. MN/45	No	ns	0.998
	IA/39 vs. WI/71	Yes	****	< 0.0001
	IA/39 vs. OH/02	No	ns	0.1933
	IA/39 vs. TX/14	No	ns	> 0.9999
	MN/19 vs. BRIS/59	No	ns	0.9637
	MN/19 vs. MN/45	Yes	*	0.0112
	MN/19 vs. WI/71	No	ns	0.8928
	MN/19 vs. OH/02	No	ns	0.684
	MN/19 vs. TX/14	Yes	***	0.001
	BRIS/59 vs. MN/45	No	ns	0.2803
	BRIS/59 vs. WI/71	No	ns	0.1776
	BRIS/59 vs. OH/02	No	ns	0.9997
	BRIS/59 vs. TX/14	No	ns	0.0541
	MN/45 vs. WI/71	Yes	****	< 0.0001
	MN/45 vs. OH/02	No	ns	0.6911
	MN/45 vs. TX/14	No	ns	0.9994
	WI/71 vs. OH/02	Yes	*	0.0352
	WI/71 vs. TX/14	Yes	****	< 0.0001
	OH/02 vs. TX/14	No	ns	0.2441
72h time point	CA/07 vs. OH/9	Yes	****	< 0.0001
	CA/07 vs. IA/39	Yes	***	0.0007
	CA/07 vs. MN/19	Yes	****	< 0.0001
	CA/07 vs. BRIS/59	Yes	****	< 0.0001
	CA/07 vs. MN/45	Yes	****	< 0.0001
	CA/07 vs. WI/71	Yes	****	< 0.0001
	CA/07 vs. OH/02	Yes	****	< 0.0001
	CA/07 vs. TX/14	Yes	****	< 0.0001

OH/09 vs. IA/39	No	ns	0.9159
OH/09 vs. MN/19	No	ns	0.8617
OH/09 vs. BRIS/59	No	ns	0.9973
OH/09 vs. MN/45	No	ns	0.412
OH/09 vs. WI/71	No	ns	0.804
OH/09 vs. OH/02	No	ns	0.9991
OH/09 vs. TX/14	No	ns	0.9998
IA/39 vs. MN/19	No	ns	0.097
IA/39 vs. BRIS/59	No	ns	0.4081
IA/39 vs. MN/45	No	ns	0.9974
IA/39 vs. WI/71	No	ns	0.0723
IA/39 vs. OH/02	No	ns	0.9996
IA/39 vs. TX/14	No	ns	0.9986
MN/19 vs. BRIS/59	No	ns	0.9994
MN/19 vs. MN/45	Yes	**	0.0081
MN/19 vs. WI/71	No	ns	> 0.9999
MN/19 vs. OH/02	No	ns	0.3949
MN/19 vs. TX/14	No	ns	0.4658
BRIS/59 vs. MN/45	No	ns	0.066
BRIS/59 vs. WI/71	No	ns	0.9981
BRIS/59 vs. OH/02	No	ns	0.8434
BRIS/59 vs. TX/14	No	ns	0.8912
MN/45 vs. WI/71	Yes	**	0.0055
MN/45 vs. OH/02	No	ns	0.8735
MN/45 vs. TX/14	No	ns	0.8218
WI/71 vs. OH/02	No	ns	0.3252
WI/71 vs. TX/14	No	ns	0.3907
OH/02 vs. TX/14	No	ns	> 0.9999

OH/9 vs. IA/39	No	ns	0.0617
OH/9 vs. MN/19	No	ns	0.9989
OH/9 vs. BRIS/59	No	ns	0.7261
OH/9 vs. MN/45	No	ns	0.403
OH/9 vs. WI/71	No	ns	0.1014
OH/9 vs. OH/02	No	ns	0.9964
OH/9 vs. TX/14	No	ns	0.2727
IA/39 vs. MN/19	Yes	**	0.006
IA/39 vs. BRIS/59	Yes	***	0.0001
IA/39 vs. MN/45	No	ns	0.997
IA/39 vs. WI/71	Yes	****	< 0.0001
IA/39 vs. OH/02	No	ns	0.4164
IA/39 vs. TX/14	No	ns	0.9997
MN/19 vs. BRIS/59	No	ns	0.9885
MN/19 vs. MN/45	No	ns	0.081
MN/19 vs. WI/71	No	ns	0.4612
MN/19 vs. OH/02	No	ns	0.8148
MN/19 vs. TX/14	Yes	*	0.0444
BRIS/59 vs. MN/45	Yes	**	0.0033
BRIS/59 vs. WI/71	No	ns	0.9765
BRIS/59 vs. OH/02	No	ns	0.1876
BRIS/59 vs. TX/14	Yes	**	0.0015
MN/45 vs. WI/71	Yes	****	< 0.0001
MN/45 vs. OH/02	No	ns	0.9238
MN/45 vs. TX/14	No	ns	> 0.9999
WI/71 vs. OH/02	Yes	**	0.0076
WI/71 vs. TX/14	Yes	****	< 0.0001
OH/02 vs. TX/14	No	ns	0.8318

**Supplemental Table 3. Comparison of viral replication in mouse lung and nose tissues.**

	Tukey's multiple comparisons test	Significant?	Summary	Adjusted P Value
lungs day 3	OH/9 vs. IA/39	No	ns	0.9244
	OH/9 vs. CA/07	No	ns	0.6437
	OH/9 vs. MN/19	No	ns	0.9998
	OH/9 vs. MN/45	No	ns	0.9997
	OH/9 vs. WI/71	Yes	*	0.0106
	IA/39 vs. CA/07	No	ns	0.9919
	IA/39 vs. MN/19	No	ns	0.8243
	IA/39 vs. MN/45	No	ns	0.8076
	IA/39 vs. WI/71	Yes	**	0.001
	CA/07 vs. MN/19	No	ns	0.4898
	CA/07 vs. MN/45	No	ns	0.4697
	CA/07 vs. WI/71	Yes	***	0.0002
	MN/19 vs. MN/45	No	ns	> 0.9999
	MN/19 vs. WI/71	Yes	*	0.0191
	MN/45 vs. WI/71	Yes	*	0.0207
lungs day 6	OH/9 vs. IA/39	Yes	****	< 0.0001
	OH/9 vs. CA/07	No	ns	> 0.9999
	OH/9 vs. MN/19	Yes	*	0.0102
	OH/9 vs. MN/45	Yes	***	0.0006
	OH/9 vs. WI/71	Yes	**	0.0058
	IA/39 vs. CA/07	Yes	****	< 0.0001
	IA/39 vs. MN/19	No	ns	0.1242
	IA/39 vs. MN/45	No	ns	0.6916
	IA/39 vs. WI/71	No	ns	0.1907
	CA/07 vs. MN/19	Yes	*	0.0137
	CA/07 vs. MN/45	Yes	***	0.0008
	CA/07 vs. WI/71	Yes	**	0.0079
	MN/19 vs. MN/45	No	ns	0.8385
	MN/19 vs. WI/71	No	ns	0.9999
	MN/45 vs. WI/71	No	ns	0.9274
nose day 3	OH/9 vs. IA/39	No	ns	0.0517
	OH/9 vs. CA/07	Yes	*	0.0134
	OH/9 vs. MN/19	No	ns	> 0.9999
	OH/9 vs. MN/45	Yes	**	0.0065
	OH/9 vs. WI/71	No	ns	0.0528
	IA/39 vs. CA/07	No	ns	0.6378
	IA/39 vs. MN/19	Yes	*	0.0361
	IA/39 vs. MN/45	No	ns	0.9233
	IA/39 vs. WI/71	Yes	****	< 0.0001

	CA/07 vs. MN/19	Yes	*	0.0102
	CA/07 vs. MN/45	No	ns	0.95
	CA/07 vs. WI/71	Yes	***	0.0001
	MN/19 vs. MN/45	Yes	**	0.0044
	MN/19 vs. WI/71	No	ns	0.075
	MN/45 vs. WI/71	Yes	****	< 0.0001
nose day 6	OH/9 vs. IA/39	No	ns	0.5001
	OH/9 vs. CA/07	Yes	***	0.0004
	OH/9 vs. MN/19	No	ns	0.4294
	OH/9 vs. MN/45	Yes	****	< 0.0001
	OH/9 vs. WI/71	Yes	**	0.0018
	IA/39 vs. CA/07	Yes	**	0.006
	IA/39 vs. MN/19	No	ns	> 0.9999
	IA/39 vs. MN/45	Yes	****	< 0.0001
	IA/39 vs. WI/71	No	ns	0.0833
	CA/07 vs. MN/19	Yes	**	0.0073
	CA/07 vs. MN/45	No	ns	0.9774
	CA/07 vs. WI/71	No	ns	0.3352
	MN/19 vs. MN/45	Yes	****	< 0.0001
	MN/19 vs. WI/71	No	ns	0.1055
	MN/45 vs. WI/71	Yes	**	0.0087