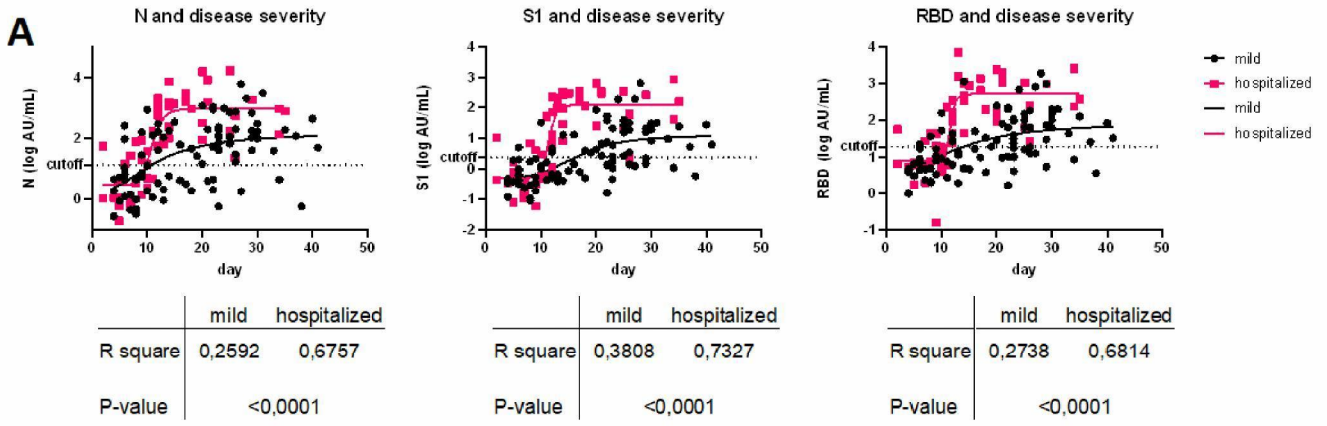


		COVID-19 disease	Specificity-optimized		Youdens J statistic	
			sensitivity	specificity	sensitivity	specificity
Single	N	severe	100	98,7	100	98,2
		mild	96,3		85,2	
	S1	severe	94,3	99,1	97,1	98,1
		mild	76,3		91,3	
	RBD	severe	94,1	98,0	97,1	94,5
		mild	78,3		91,6	
OR	N or S1	severe	100	97,8	100	96,3
		mild	88,0		92,8	
	N or RBD	severe	100	96,7	100	92,8
		mild	91,7		95,2	
	S1 or RBD	severe	97,1	97,2	97,1	92,7
		mild	90,4		96,4	
	N or S1 or RBD	severe	100	95,8	100	90,9
		mild	95,1		98,8	
AND	N & S1	severe	93,5	100	96,8	100
		mild	70,5		83,3	
	N & RBD	severe	93,5	100	96,8	100
		mild	69,6		82,3	
	S1 & RBD	severe	91,2	100	97,1	100
		mild	64,6		87,3	
	N & S1 & RBD	severe	90,3	100	96,8	100
		mild	59,7		80,5	

Onder archive staat dezelfde table met andere layout  
 Heb data bars toegevoegd om te helpen snel te vergelijken



Latest FFX data 6-5 6pm added

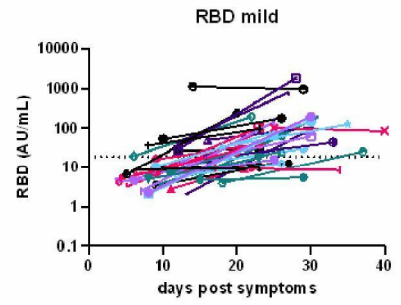
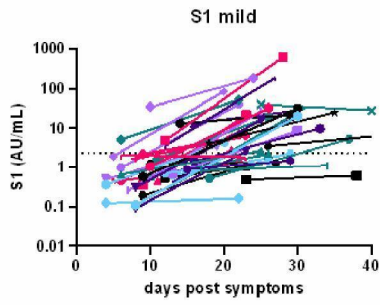
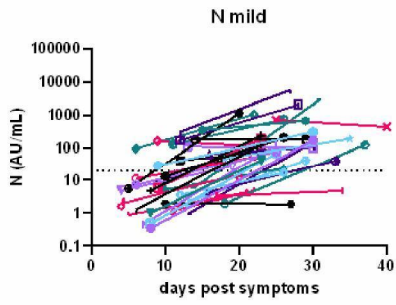
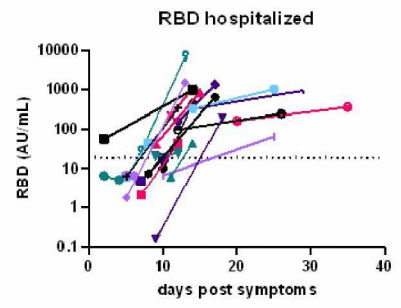
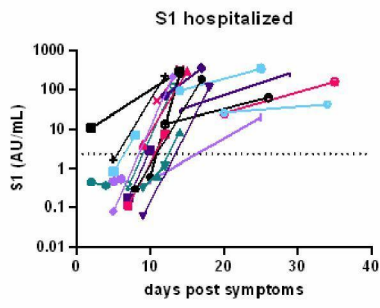
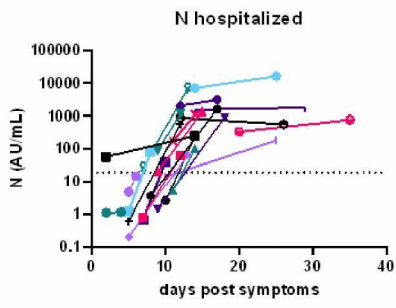
SStoof 1-5 added

Table and figs need to be updated  
 once last Ss 5 samples added

# Supplement

Table S1. Prevalence estimated by the test relative to true prevalence and different levels of specificity and sensitivity

		true prevalence							relative error	
		1	3	5	10	20	50	90		
sensitivity	100	specificity 100	1,00	3,00	5,0	10,0	20,0	50,0	90,0	& /- 5%
		99	1,99	3,97	6,0	10,9	20,8	50,5	90,1	& /- 10%
		98	2,98	4,94	6,9	11,8	21,6	51,0	90,2	& /- 20%
		97	3,97	5,91	7,9	12,7	22,4	51,5	90,3	
		96	4,96	6,88	8,8	13,6	23,2	52,0	90,4	
		95	5,95	7,85	9,8	14,5	24,0	52,5	90,5	
sensitivity	98	specificity 100	0,98	2,94	4,9	9,8	19,6	49,0	88,2	
		99	1,97	3,91	5,9	10,7	20,4	49,5	88,3	
		98	2,96	4,88	6,8	11,6	21,2	50,0	88,4	
		97	3,95	5,85	7,8	12,5	22,0	50,5	88,5	
		96	4,94	6,82	8,7	13,4	22,8	51,0	88,6	
		95	5,93	7,79	9,7	14,3	23,6	51,5	88,7	
sensitivity	95	specificity 100	0,95	2,85	4,8	9,5	19,0	47,5	85,5	
		99	1,94	3,82	5,7	10,4	19,8	48,0	85,6	
		98	2,93	4,79	6,7	11,3	20,6	48,5	85,7	
		97	3,92	5,76	7,6	12,2	21,4	49,0	85,8	
		96	4,91	6,73	8,6	13,1	22,2	49,5	85,9	
		95	5,90	7,70	9,5	14,0	23,0	50,0	86,0	
sensitivity	90	specificity 100	0,90	2,70	4,5	9,0	18,0	45,0	81,0	
		99	1,89	3,67	5,5	9,9	18,8	45,5	81,1	
		98	2,88	4,64	6,4	10,8	19,6	46,0	81,2	
		97	3,87	5,61	7,4	11,7	20,4	46,5	81,3	
		96	4,86	6,58	8,3	12,6	21,2	47,0	81,4	
		95	5,85	7,55	9,3	13,5	22,0	47,5	81,5	
sensitivity	85	specificity 100	0,85	2,55	4,3	8,5	17,0	42,5	76,5	
		99	1,84	3,52	5,2	9,4	17,8	43,0	76,6	
		98	2,83	4,49	6,2	10,3	18,6	43,5	76,7	
		97	3,82	5,46	7,1	11,2	19,4	44,0	76,8	
		96	4,81	6,43	8,1	12,1	20,2	44,5	76,9	
		95	5,80	7,40	9,0	13,0	21,0	45,0	77,0	
sensitivity	80	specificity 100	0,80	2,40	4,0	8,0	16,0	40,0	72,0	
		99	1,79	3,37	5,0	8,9	16,8	40,5	72,1	
		98	2,78	4,34	5,9	9,8	17,6	41,0	72,2	
		97	3,77	5,31	6,9	10,7	18,4	41,5	72,3	
		96	4,76	6,28	7,8	11,6	19,2	42,0	72,4	
		95	5,75	7,25	8,8	12,5	20,0	42,5	72,5	



Version 6mei  
Probably final

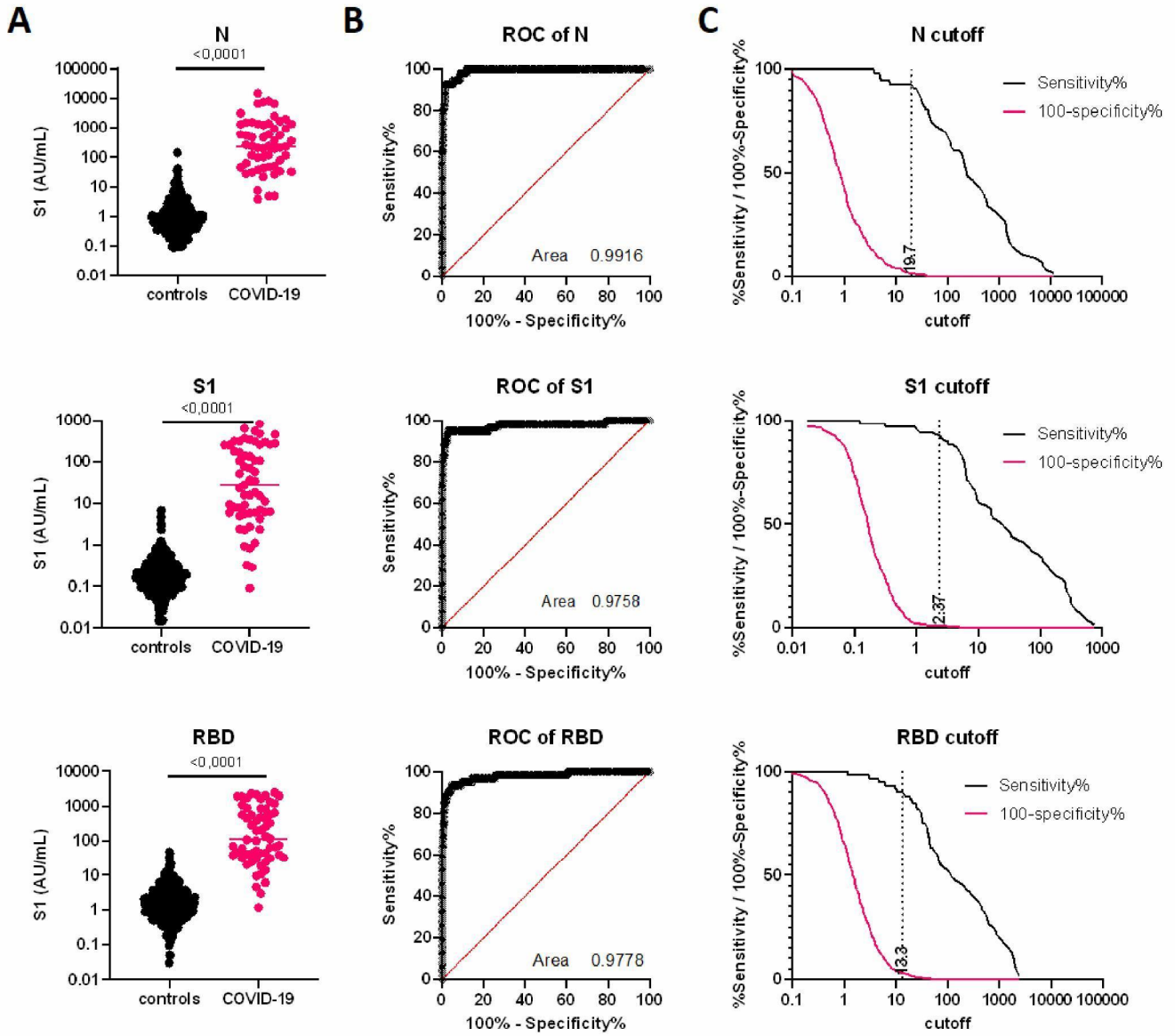


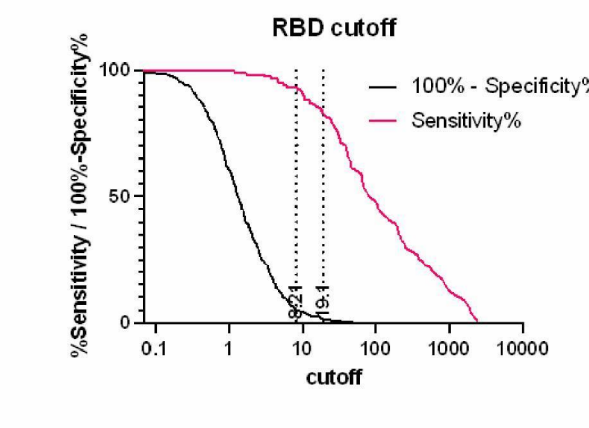
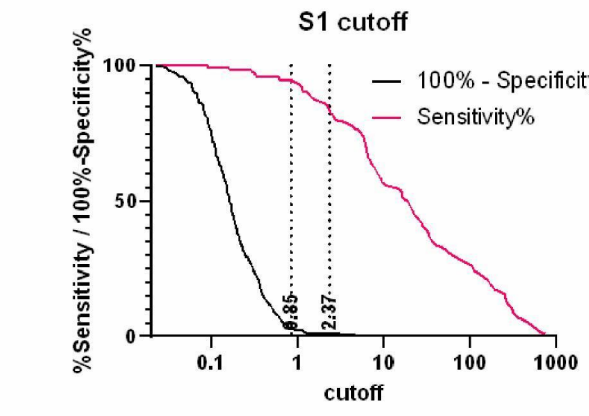
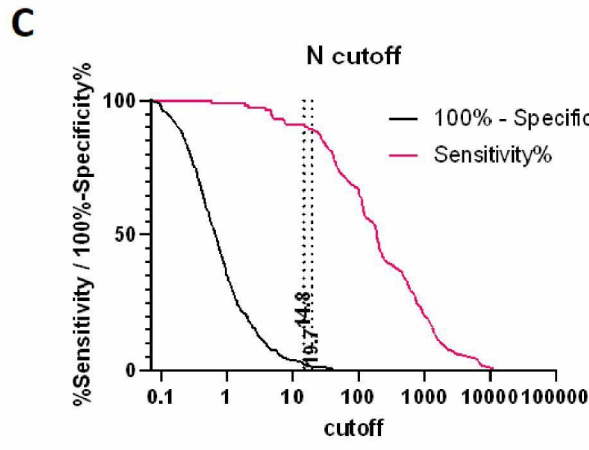
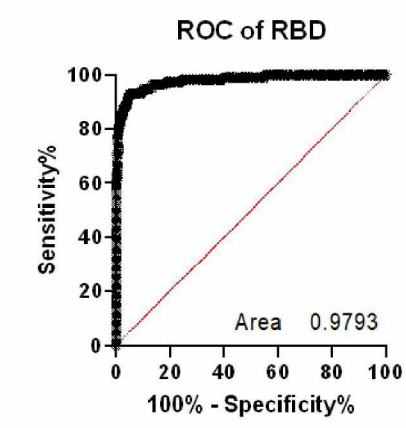
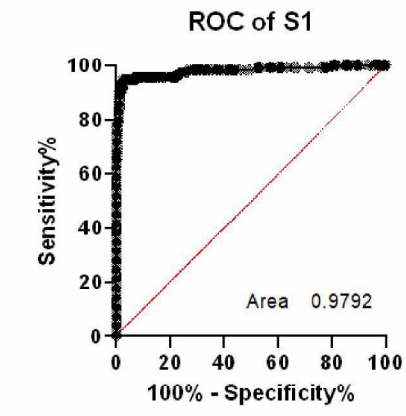
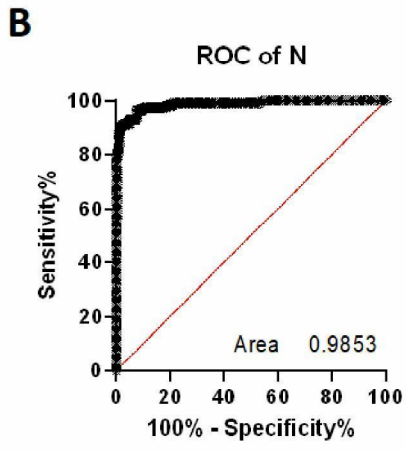
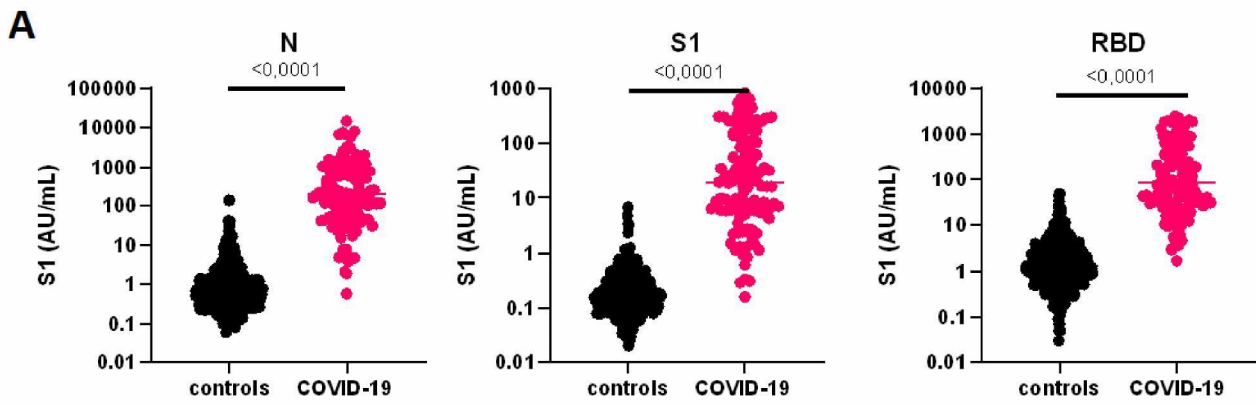
# Archive

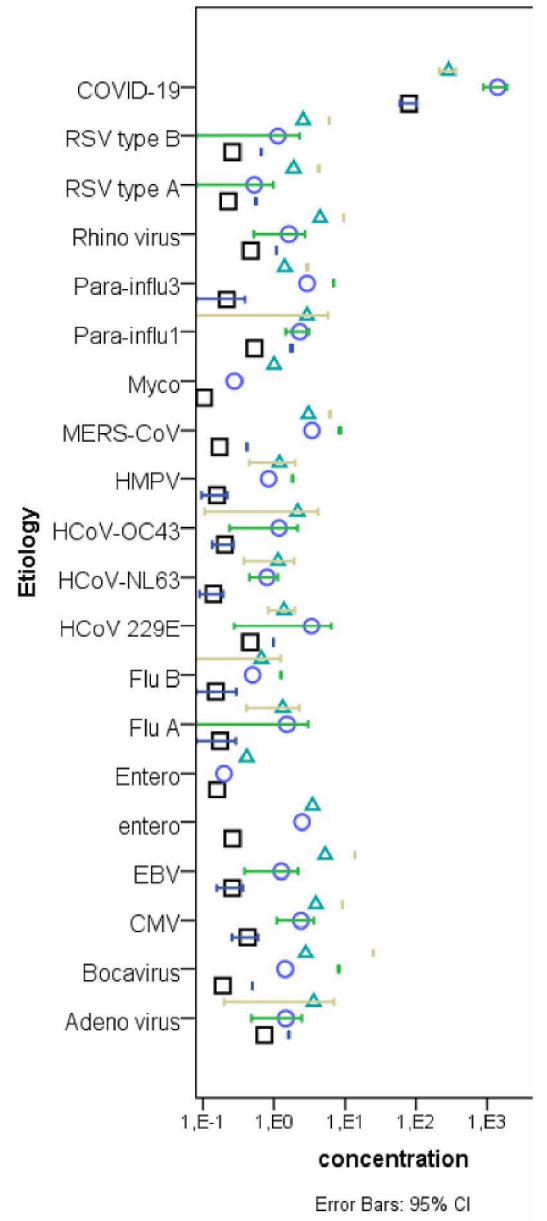
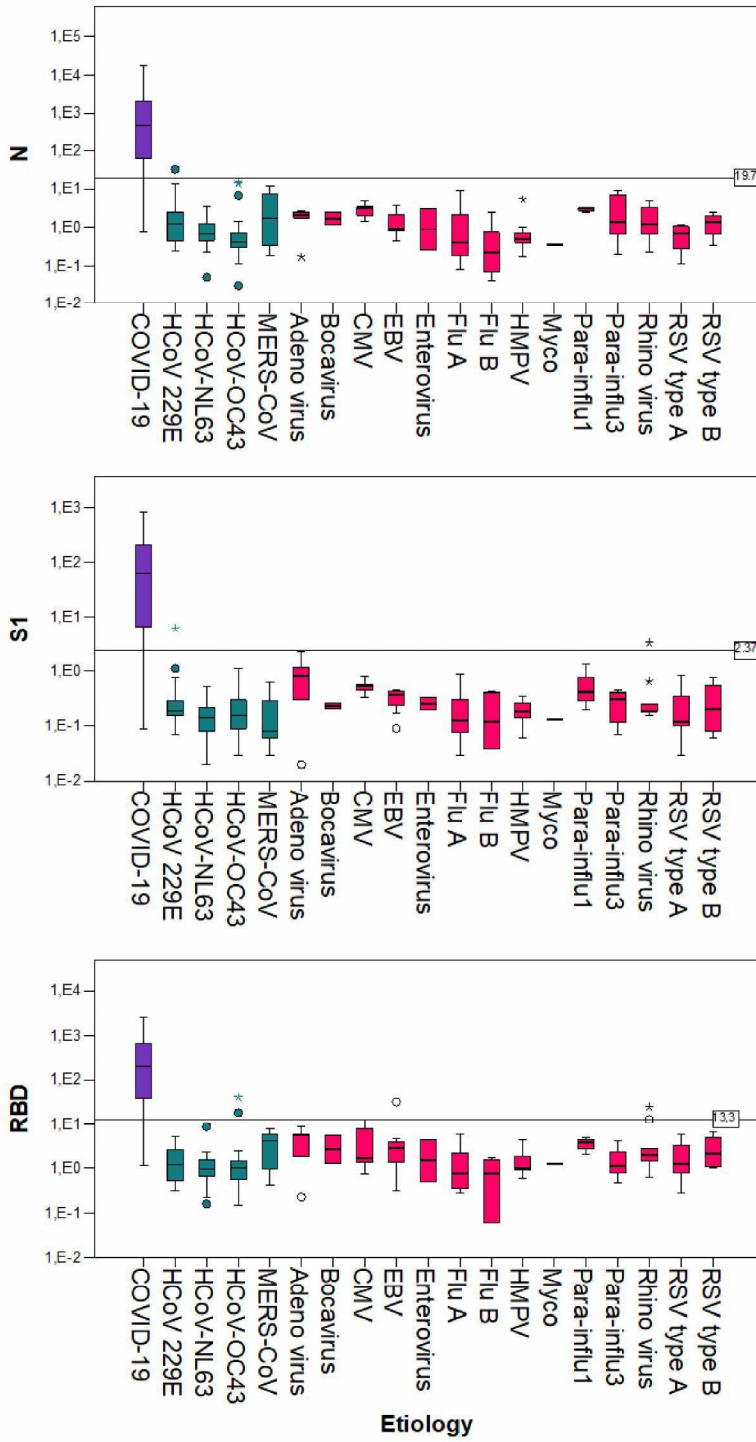
**B**

average day of seroconversion		
	mild	hospitalized
N	13,9	8,7
S1	16,0	8,6
RBD	15,3	7,6

			Specificity-optimized		Youdens J statistic	
COVID-19 disease			sensitivity	specificity	sensitivity	specificity
Single	N	severe	100	98,7	100	98,2
		mild	96,3		85,2	
	S1	severe	94,3	99,1	97,1	98,1
		mild	76,3		91,3	
	RBD	severe	94,1	98,0	97,1	94,5
		mild	78,3		91,6	
OR	N or S1	severe	100	97,8	100	96,3
		mild	88,0		92,8	
	N or RBD	severe	100	96,7	100	92,8
		mild	91,7		95,2	
	S1 or RBD	severe	97,1	97,2	97,1	92,7
		mild	90,4		96,4	
N or S1 or RBD	severe	100	95,8	100	90,9	
	mild	95,1		98,8		
AND	N & S1	severe	93,5	100	96,8	100
		mild	70,5		83,3	
	N & RBD	severe	93,5	100	96,8	100
		mild	69,6		82,3	
	S1 & RBD	severe	91,2	100	97,1	100
		mild	64,6		87,3	
N & S1 & RBD	severe	90,3	100	96,8	100	
	mild	59,7		80,5		







**Table 1. IgG concentrations to SARS-CoV-2 antigens in controls and COVID-19 patients**

	<b>N</b>	<b>S1</b>	<b>RBD</b>
<b>Reproducibility *</b>	N=268	N=268	N=214
R square	0.982	0.985	0.988
CV%	19.1	25.5	14.6
<b>Seroconversion #</b>			
Controls	3.125 (1.803-4.446)	0.515 (0.408-0.621)	2.863 (2.350-3.377)
COVID-19 patients	558.7 (199.4-918.0)	76.22 (41.08-111.4)	519.7 (334.2-705.1)
Mean difference	555.6 (425.9-685.3)	75.70 (62.68-88.73)	516.8 (442.9-590.7)
	P<0.0001	P<0.0001	P<0,0001
<b>ROC analyses †</b>			
Specificity Cutoff	19.7	2.37	19.1
Sensitivity	89.4	84.4	83.6
Specificity	98.5	99.0	98.5
Youden J statistic Cutoff	14.8	0.85	8.21
Sensitivity	91.2	95.7	94.0
Specificity	97.8	97.3	95.1

\* Performance data of the assay. Raw data shown in Fig 1.

# Data show mean and 95% confidence intervals. Statistical test results are based on log-transformed data. Untransformed data are shown in Fig 2.

† Roc statistics of Fig 3.

N            N=268  
R square    0.982  
CV%         19.1

**Table 2. Sensitivity of the multiplex assay using different cutoffs and antibody results**

	Specificity cutoff *					Youdens'J statistic cutoff #				
	%pos	%neg	weight \$	weighed sensitivity	weighed specificity	%pos	%neg	weight \$	weighed sensitivity	weighed specificity
<b>N &amp; S1 &amp; RBD</b>	<b>All controls</b>	<b>0</b>	<b>100</b>			<b>100</b>	<b>0</b>	<b>100</b>		
	cross-sectional	0	100	0,70			0	100	0,70	
	ILI non hCoV	0	100	0,15			0	100	0,15	
	ILI hCoV	0	100	0,15			0	100	0,15	
	<b>All COVID-19</b>	<b>68,5</b>	<b>31,5</b>		<b>68,9</b>		<b>85,2</b>	<b>14,8</b>		<b>85,4</b>
	COVID-19 severe	90,3	9,7	0,30			96,8	3,2	0,30	
COVID-19 mild	59,7	40,3	0,70			80,5	19,5	0,70		
<b>N &amp; S1</b>	<b>All controls</b>	<b>0</b>	<b>100</b>			<b>100</b>	<b>0</b>	<b>100</b>		<b>100</b>
	cross-sectional	0	100	0,70			0	100	0,70	
	ILI non hCoV	0	100	0,15			0	100	0,15	
	ILI hCoV	0	100	0,15			0	100	0,15	
	<b>All COVID-19</b>	<b>77,1</b>	<b>22,9</b>		<b>77,4</b>		<b>87,2</b>	<b>12,8</b>		<b>87,4</b>
	COVID-19 severe	93,5	6,5	0,30			96,8	3,2	0,30	
COVID-19 mild	70,5	29,5	0,70			83,3	16,7	0,70		
<b>N &amp; RBD</b>	<b>All controls</b>	<b>0</b>	<b>100</b>			<b>100</b>	<b>0</b>	<b>100</b>		<b>100</b>
	cross-sectional	0	100	0,70			0	100	0,70	
	ILI non hCoV	0	100	0,15			0	100	0,15	
	ILI hCoV	0	100	0,15			0	100	0,15	
	<b>All COVID-19</b>	<b>76,4</b>	<b>23,6</b>		<b>76,8</b>		<b>86,4</b>	<b>13,6</b>		<b>86,6</b>
	COVID-19 severe	93,5	6,5	0,30			96,8	3,2	0,30	
COVID-19 mild	69,6	30,4	0,70			82,3	17,7	0,70		
<b>S1 &amp; RBD</b>	<b>All controls</b>	<b>0</b>	<b>100</b>			<b>100</b>	<b>0</b>	<b>100</b>		<b>100</b>
	cross-sectional	0	100	0,70			0	100	0,70	
	ILI non hCoV	0	100	0,15			0	100	0,15	
	ILI hCoV	0	100	0,15			0	100	0,15	
	<b>All COVID-19</b>	<b>72,6</b>	<b>27,4</b>		<b>72,5</b>		<b>90,3</b>	<b>9,7</b>		<b>90,3</b>
	COVID-19 severe	91,2	8,8	0,30			97,1	2,9	0,30	
COVID-19 mild	64,6	35,4	0,70			87,3	12,7	0,70		
<b>N or S1 or RBD</b>	<b>All controls</b>	<b>4,6</b>	<b>95,4</b>			<b>95,8</b>	<b>10,3</b>	<b>89,7</b>		<b>90,9</b>
	cross-sectional	3,8	96,2	0,7			7,6	92,4	0,7	
	ILI non hCoV	2,7	97,3	0,15			10,7	89,3	0,15	
	ILI hCoV	7,3	92,7	0,15			14,7	85,3	0,15	
	<b>All COVID-19</b>	<b>96,6</b>	<b>3,4</b>		<b>96,1</b>		<b>99,1</b>	<b>0,86</b>		<b>99,0</b>
	COVID-19 severe	100	0	0,20			100	0	0,20	
COVID-19 mild	95,1	4,9	0,80			98,8	1,2	0,80		

\* cutoffs: N= 19,7; S1=2.37; RBD=19.1 ; # cutoffs N=14.8; S1=0.85; RBD=8.21 ; \$ weighing is applied to better reflect the frequencies of patients

With FFX t2 data may4th added

