

**Supplemental table 1:**

Comparison of qualitative SARS-CoV-2 serology results in various time intervals after the presumed time of infection (first positive PCR).

			total anti-S	IgG anti-S			total anti-NC	IgG anti-NC
		time interval (days) after first positive PCR	Elecsys Anti-SARS-CoV-2 S (Roche)	SARS-CoV-2 IgG II Quant (Abbott)	LIAISON SARS-CoV-2 S1/S2 IgG (DiaSorin)	LIAISON SARS-CoV-2 TrimericS IgG (DiaSorin)	Elecsys Anti-SARS-CoV-2 (Roche)	SARS-CoV-2 IgG (Abbott)
total anti-S	Elecsys Anti-SARS-CoV-2 S (Roche)	13 to 46		$P = .50$	$P < .001^a$	$P = .22$	$P = .29$	$P = .15$
		47 to 68		$P = .63$	$P < .001^a$	$P < .001$	$P = .22$	$P = .07$
		69 to 85		$P > .99$	$P < .001^a$	$P = .004$	$P > .99$	$P < .001$
		86 to 103		$P = .50$	$P < .001^a$	$P < .001$	$P = .50$	$P < .001$
		104 to 123		$P = .38$	$P < .001^a$	$P < .001$	$P > .99$	$P < .001$
		124 to 150		$P > .99$	$P < .001^a$	$P = .004$	$P = .25$	$P < .001$
		151 to 186		$P = .25$	$P < .001^a$	$P < .001$	$P = .25$	$P < .001$
187 to 251		$P = .25$	$P < .001^a$	$P < .001$	n. d. <sup>c</sup>	$P < .001$		
252 to 358		$P = .06$	$P < .001^a$	$P < .001$	$P < .001$	$P = .25$	$P < .001$	
IgG anti-S	SARS-CoV-2 IgG II Quant (Abbott)	13 to 46	$\kappa = 0.79$		$P < .001^a$	$P = .03$	$P = .07$	$P = .02$
		47 to 68	$\kappa = 0.48$		$P < .001^a$	$P = .002$	$P = .73$	$P = .34$
		69 to 85	$\kappa < 0.00$		$P < .001^a$	$P = .008$	$P > .99$	$P < .001$
		86 to 103	$\kappa = 0.49$		$P < .001^a$	$P = .002$	$P > .99$	$P < .001$
		104 to 123	$\kappa < 0.00$		$P < .001^a$	$P < .001$	$P = .69$	$P < .001$
		124 to 150	$\kappa = 0.00$		$P < .001^a$	$P = .008$	$P = .63$	$P < .001$
		151 to 186	$\kappa = 0.00$		$P < .001^a$	$P = .002$	$P > .99$	$P < .001$
	187 to 251	$\kappa = 0.00$		$P < .001^b$	$P = .01$	$P = .25$	$P < .001$	
	252 to 358	$\kappa = 0.00$		$P = .008^a$	$P = .004$	$P = .63$	$P < .001$	
	LIAISON SARS-CoV-2 S1/S2 IgG (DiaSorin)	13 to 46	$\kappa = 0.23$	$\kappa = 0.15$		$P < .001^a$	$P < .001^a$	$P < .001^a$
		47 to 68	$\kappa = 0.18$	$\kappa = 0.29$		$P = .004^b$	$P < .001^a$	$P < .001^a$
		69 to 85	$\kappa = 0.08$	$\kappa = 0.15$		$P = .01^b$	$P < .001^a$	$P > .99^a$
86 to 103		$\kappa = 0.10$	$\kappa = 0.28$		$P = .51^a$	$P < .001^a$	$P = .30^b$	
104 to 123		$\kappa = 0.10$	$\kappa = 0.36$		$P > .99^a$	$P < .001^a$	$P < .001^a$	
124 to 150	$\kappa = 0.00$	$\kappa = 0.12$		$P = .23^a$	$P = .007^a$	$P < .001^a$		
151 to 186	$\kappa = 0.00$	$\kappa = 0.32$		$P > .99^a$	$P = .01^b$	$P < .001^a$		
187 to 251	$\kappa = 0.00$	$\kappa = 0.16$		$P < .18^a$	$P < .001^a$	$P < .001^a$		
252 to 358	$\kappa = 0.00$	$\kappa = 0.39$		$P = .39^a$	$P < .001^a$	$P < .001^a$		
LIAISON SARS-CoV-2 TrimericS IgG (DiaSorin)	13 to 46	$\kappa = 0.60$	$\kappa = 0.55$	$\kappa = 0.36$		$P > .99$	$P = .79$	
	47 to 68	$\kappa = 0.30$	$\kappa = 0.46$	$\kappa = 0.72$		$P = .06$	$P = .18$	
	69 to 85	$\kappa = 0.17$	$\kappa = 0.31$	$\kappa = 0.47$		$P = .04$	$P = .06$	
	86 to 103	$\kappa = 0.13$	$\kappa = 0.34$	$\kappa = 0.64$		$P = .002$	$P = .06$	
	104 to 123	$\kappa = 0.11$	$\kappa = 0.38$	$\kappa = 0.66$		$P < .001$	$P < .001$	
	124 to 150	$\kappa = 0.00$	$\kappa = 0.19$	$\kappa = 0.47$		$P = .11$	$P < .001$	
	151 to 186	$\kappa = 0.00$	$\kappa = 0.35$	$\kappa = 0.54$		$P = .01$	$P < .001$	
187 to 251	$\kappa = 0.00$	$\kappa = 0.23$	$\kappa = 0.64$		$P < .001$	$P < .001$		
252 to 358	$\kappa = 0.00$	$\kappa = 0.49$	$\kappa = 0.56$		$P = .003$	$P < .001$		
total anti-NC	Elecsys Anti-SARS-CoV-2 (Roche)	13 to 46	$\kappa = 0.46$	$\kappa = 0.40$	$\kappa = 0.20$	$\kappa = 0.23$		$P = .75$
		47 to 68	$\kappa = 0.38$	$\kappa = 0.29$	$\kappa = 0.25$	$\kappa = 0.30$		$P = .69$
		69 to 85	$\kappa < 0.00$	$\kappa < 0.00$	$\kappa < 0.00$	$\kappa < 0.00$		$P < .001$
		86 to 103	$\kappa = 0.49$	$\kappa = 0.66$	$\kappa = 0.28$	$\kappa = 0.34$		$P < .001$
		104 to 123	$\kappa < 0.00$	$\kappa < 0.00$	$\kappa < 0.00$	$\kappa = 0.09$		$P < .001$
		124 to 150	$\kappa = 0.00$	$\kappa < 0.00$	$\kappa = 0.07$	$\kappa = 0.13$		$P < .001$
		151 to 186	$\kappa = 0.00$	$\kappa < 0.00$	$\kappa < 0.00$	$\kappa = 0.08$		$P < .001$
187 to 251	n. d. <sup>c</sup>	$\kappa = 0.00$	$\kappa = 0.00$	$\kappa = 0.00$		$P < .001$		
252 to 358	$\kappa = 0.00$	$\kappa = 0.48$	$\kappa = 0.15$	$\kappa = 0.20$		$P < .001$		
IgG anti-NC	SARS-CoV-2 IgG (Abbott)	13 to 46	$\kappa = 0.28$	$\kappa = 0.34$	$\kappa = 0.37$	$\kappa = 0.29$	$\kappa = 0.49$	
		47 to 68	$\kappa = 0.30$	$\kappa = 0.24$	$\kappa = 0.41$	$\kappa = 0.35$	$\kappa = 0.60$	
		69 to 85	$\kappa < 0.00$	$\kappa < 0.00$	$\kappa = 0.21$	$\kappa = 0.09$	$\kappa = 0.06$	
		86 to 103	$\kappa = 0.07$	$\kappa = 0.21$	$\kappa = 0.51$	$\kappa = 0.51$	$\kappa = 0.21$	
		104 to 123	$\kappa < 0.00$	$\kappa = 0.10$	$\kappa = 0.34$	$\kappa = 0.21$	$\kappa = 0.08$	
		124 to 150	$\kappa = 0.00$	$\kappa = 0.04$	$\kappa = 0.25$	$\kappa = 0.30$	$\kappa = 0.13$	
		151 to 186	$\kappa = 0.00$	$\kappa = 0.08$	$\kappa = 0.33$	$\kappa = 0.30$	$\kappa = 0.08$	
187 to 251	$\kappa = 0.00$	$\kappa = 0.04$	$\kappa = 0.23$	$\kappa = 0.18$	$\kappa = 0.00$			
252 to 358	$\kappa = 0.00$	$\kappa = 0.06$	$\kappa = 0.16$	$\kappa = 0.14$	$\kappa = 0.04$			

The cross tables on the upper right display the  $P$ -values determined with McNemar's test. A  $P$ -value below .05 is considered to reflect a significantly different distribution of positive and negative results between two assays. The „borderline“ results (12-15 AU/mL) of the LIAISON SARS-CoV-2 S1/S2 IgG (DiaSorin) were counted as negatives. Time intervals, where counting them as positives would have a relevant effect on the agreement with other assays, are highlighted with a footnote (see below). Cohen's Kappa coefficients are presented in the lower left crosstables. These table cells are colored in order to the overall agreement between to methods: **almost perfect** ( $\kappa > 0.80$ ), **substantial** ( $0.61 \leq \kappa \leq 0.80$ ), **moderate** ( $0.41 \leq \kappa \leq 0.60$ ), **fair** ( $0.21 \leq \kappa \leq 0.40$ ), **slight** ( $0.00 \leq \kappa \leq 0.20$ ) and **poor** ( $\kappa < 0.00$ ). Counting the „borderline“ results of the LIAISON SARS-CoV-2 S1/S2 IgG as positives would have raised overall agreement with all assays but the IgG NC-ab test. <sup>a</sup> Counting the „borderline“ results as positives would have not changed interpretation of the  $P$ -value. <sup>b</sup> Counting the „borderline“ results as positives would have caused a different interpretation of the  $P$ -value. <sup>c</sup> Both tests provided only positive results, McNemar's test and Cohen's Kappa are not applicable.

**Supplemental table 2:**

Comparison of the quantitative results of four SARS-CoV-2 serology assays.

			total anti-S	IgG anti-S		
		time interval (days) after first positive PCR	<i>Elecsys Anti-SARS-CoV-2 S</i> (Roche)	<i>SARS-CoV-2 IgG II Quant</i> (Abbott)	<i>LIAISON SARS-CoV-2 S1/S2 IgG</i> (DiaSorin)	<i>LIAISON SARS-CoV-2 TrimericS IgG</i> (DiaSorin)
total anti-S	<i>Elecsys Anti-SARS-CoV-2 S</i> (Roche)	13 to 46		rho = 0.82	rho = 0.90	rho = 0.71
		47 to 68		rho = 0.86	rho = 0.94	rho = 0.82
		69 to 85		rho = 0.84	rho = 0.92	rho = 0.80
		86 to 103		rho = 0.84	rho = 0.94	rho = 0.78
		104 to 123		rho = 0.90	rho = 0.90	rho = 0.87
		124 to 150		rho = 0.89	rho = 0.94	rho = 0.83
		151 to 186		rho = 0.89	rho = 0.95	rho = 0.91
		187 to 251		rho = 0.90	rho = 0.96	rho = 0.86
252 to 358		rho = 0.89	rho = 0.96	rho = 0.93		
IgG anti-S	<i>SARS-CoV-2 IgG II Quant</i> (Abbott)	13 to 46	<i>P</i> = .71		rho = 0.88	rho = 0.83
		47 to 68	<i>P</i> = .41		rho = 0.91	rho = 0.89
		69 to 85	<i>P</i> = .43		rho = 0.89	rho = 0.89
	86 to 103	<i>P</i> = .71		rho = 0.92	rho = 0.90	
	104 to 123	<i>P</i> = .96		rho = 0.92	rho = 0.93	
	124 to 150	<i>P</i> = .40		rho = 0.93	rho = 0.93	
	151 to 186	<i>P</i> = .58		rho = 0.90	rho = 0.92	
	187 to 251	<i>P</i> = .27		rho = 0.92	rho = 0.91	
	252 to 358	<i>P</i> = .27		rho = 0.91	rho = 0.92	
<i>LIAISON SARS-CoV-2 S1/S2 IgG</i> (DiaSorin)	13 to 46	<i>P</i> = .04		<i>P</i> = .12		rho = 0.85
	47 to 68	<i>P</i> < .001		<i>P</i> = .002		rho = 0.90
	69 to 85	<i>P</i> = .09		<i>P</i> = .05		rho = 0.89
	86 to 103	<i>P</i> = .40		<i>P</i> = .27		rho = 0.86
	104 to 123	<i>P</i> = .40		<i>P</i> = .40		rho = 0.93
	124 to 150	<i>P</i> = .02		<i>P</i> = .18		rho = 0.90
151 to 186	<i>P</i> = .05		<i>P</i> = .21		rho = 0.94	
187 to 251	<i>P</i> = .12		<i>P</i> = .02		rho = 0.91	
252 to 358	<i>P</i> = .18		<i>P</i> = .04		rho = 0.94	
<i>LIAISON SARS-CoV-2 TrimericS IgG</i> (DiaSorin)	13 to 46	<i>P</i> = .40		<i>P</i> = .86	<i>P</i> = .12	
	47 to 68	<i>P</i> = .87		<i>P</i> = .56	<i>P</i> = .03	
	69 to 85	<i>P</i> = .31		<i>P</i> = .58	<i>P</i> = .05	
	86 to 103	<i>P</i> = .54		<i>P</i> = .27	<i>P</i> = .27	
	104 to 123	<i>P</i> = .96		<i>P</i> = .86	<i>P</i> = .18	
	124 to 150	<i>P</i> = .96		<i>P</i> = .86	<i>P</i> = .12	
151 to 186	<i>P</i> = .09		<i>P</i> = .05	<i>P</i> = .001		
187 to 251	<i>P</i> = .02		<i>P</i> = .07	<i>P</i> = .002		
252 to 358	<i>P</i> = .04		<i>P</i> = .02	<i>P</i> = .01		

Correlation is given as Spearman's rho in the upper right half, all assays correlated significantly with each other at any point ( $P < .001$ ). Linearity is displayed on the lower left cross tables and was checked with the CUSUM test of the Kolmogorov-Smirnov type. A  $P$ -value below .05 indicates that two paired variables are not linear to each other.