June 10, 2025

Roche Diagnostics
Tammy Dean
Senior Regulatory Affairs Manager
9115 Hague Rd
Indianapolis, Indiana 46256

Re: K250768
Trade/Device Name: Elecsys Anti-SARS-CoV-2
Regulation Number: 21 CFR 866.3983
Regulation Name: SARS-Cov-2 Serology Test
Regulatory Class: Class II
Product Code: QVP
Dated: March 13, 2025
Received: March 13, 2025

Dear Tammy Dean:

We have reviewed your section 510(k) premarket notification of intent to market the device referenced above and have determined the device is substantially equivalent (for the indications for use stated in the enclosure) to legally marketed predicate devices marketed in interstate commerce prior to May 28, 1976, the enactment date of the Medical Device Amendments, or to devices that have been reclassified in accordance with the provisions of the Federal Food, Drug, and Cosmetic Act (the Act) that do not require approval of a premarket approval application (PMA). You may, therefore, market the device, subject to the general controls provisions of the Act. Although this letter refers to your product as a device, please be aware that some cleared products may instead be combination products. The 510(k) Premarket Notification Database available at https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfpmn/pmn.cfm identifies combination product submissions. The general controls provisions of the Act include requirements for annual registration, listing of devices, good manufacturing practice, labeling, and prohibitions against misbranding and adulteration. Please note: CDRH does not evaluate information related to contract liability warranties. We remind you, however, that device labeling must be truthful and not misleading.

If your device is classified (see above) into either class II (Special Controls) or class III (PMA), it may be subject to additional controls. Existing major regulations affecting your device can be found in the Code of Federal Regulations, Title 21, Parts 800 to 898. In addition, FDA may publish further announcements concerning your device in the Federal Register.

Additional information about changes that may require a new premarket notification are provided in the FDA guidance documents entitled "Deciding When to Submit a 510(k) for a Change to an Existing Device" (https://www.fda.gov/media/99812/download) and "Deciding When to Submit a 510(k) for a Software Change to an Existing Device" (https://www.fda.gov/media/99785/download).

Your device is also subject to, among other requirements, the Quality System (QS) regulation (21 CFR Part 820), which includes, but is not limited to, 21 CFR 820.30, Design controls; 21 CFR 820.90, Nonconforming product; and 21 CFR 820.100, Corrective and preventive action. Please note that regardless of whether a change requires premarket review, the QS regulation requires device manufacturers to review and approve changes to device design and production (21 CFR 820.30 and 21 CFR 820.70) and document changes and approvals in the device master record (21 CFR 820.181).

Please be advised that FDA's issuance of a substantial equivalence determination does not mean that FDA has made a determination that your device complies with other requirements of the Act or any Federal statutes and regulations administered by other Federal agencies. You must comply with all the Act's requirements, including, but not limited to: registration and listing (21 CFR Part 807); labeling (21 CFR Part 801 and Part 809); medical device reporting (reporting of medical device-related adverse events) (21 CFR Part 803) for devices or postmarketing safety reporting (21 CFR Part 4, Subpart B) for combination products (see https://www.fda.gov/combination-products/guidance-regulatory-information/postmarketing-safety-reporting-combination-products); good manufacturing practice requirements as set forth in the quality systems (QS) regulation (21 CFR Part 820) for devices or current good manufacturing practices (21 CFR Part 4, Subpart A) for combination products; and, if applicable, the electronic product radiation control provisions (Sections 531-542 of the Act); 21 CFR Parts 1000-1050.

All medical devices, including Class I and unclassified devices and combination product device constituent parts are required to be in compliance with the final Unique Device Identification System rule ("UDI Rule"). The UDI Rule requires, among other things, that a device bear a unique device identifier (UDI) on its label and package (21 CFR 801.20(a)) unless an exception or alternative applies (21 CFR 801.20(b)) and that the dates on the device label be formatted in accordance with 21 CFR 801.18. The UDI Rule (21 CFR 830.300(a) and 830.320(b)) also requires that certain information be submitted to the Global Unique Device Identification Database (GUDID) (21 CFR Part 830 Subpart E). For additional information on these requirements, please see the UDI System webpage at https://www.fda.gov/medical-devices/device-advice-comprehensive-regulatory-assistance/unique-device-identification-system-udi-system.

Also, please note the regulation entitled, "Misbranding by reference to premarket notification" (21 CFR 807.97). For questions regarding the reporting of adverse events under the MDR regulation (21 CFR Part 803), please go to https://www.fda.gov/medical-devices/medical-device-safety/medical-device-reporting-mdr-how-report-medical-device-problems.

For comprehensive regulatory information about medical devices and radiation-emitting products, including information about labeling regulations, please see Device Advice (https://www.fda.gov/medical-devices/device-advice-comprehensive-regulatory-assistance) and CDRH Learn (https://www.fda.gov/training-and-continuing-education/cdrh-learn). Additionally, you may contact the Division of Industry and Consumer Education (DICE) to ask a question about a specific regulatory topic. See the DICE website (https://www.fda.gov/medical-devices/device-advice-comprehensive-regulatory-

assistance/contact-us-division-industry-and-consumer-education-dice) for more information or contact DICE by email (DICE@fda.hhs.gov) or phone (1-800-638-2041 or 301-796-7100).

Sincerely,

JORGE L. MUNOZ -S

Digitally signed by JORGE L. MUNOZ -S
Date: 2025.06.10 15:01:36 -04'00'

Jorge Munoz, Ph.D.
Deputy Branch Chief
Division of Microbiology Devices
OHT7: Office of In Vitro Diagnostics
Office of Product Evaluation and Quality
Center for Devices and Radiological Health

Enclosure

DEPARTMENT OF HEALTH AND HUMAN SERVICES
Food and Drug Administration

Indications for Use

Form Approved: OMB No. 0910-0120
Expiration Date: 07/31/2026
See PRA Statement below.

510(k) Number *(if known)*
K250768

Device Name
Elecsys Anti-SARS-CoV-2

Indications for Use *(Describe)*
Elecsys Anti-SARS-CoV-2 is an immunoassay intended for the in vitro qualitative detection of total antibodies to Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) in human serum and Li-heparin, K2-EDTA and K3-EDTA plasma collected on or after 15 days post-symptom onset. The test is intended as an aid in identifying individuals with an adaptive immune response to SARS-CoV-2, indicating recent or prior infection.
The electrochemiluminescence immunoassay "ECLIA" is intended for use on cobas e 601 immunoassay analyzer.

Type of Use *(Select one or both, as applicable)*

☒ Prescription Use (Part 21 CFR 801 Subpart D) ☐ Over-The-Counter Use (21 CFR 801 Subpart C)

CONTINUE ON A SEPARATE PAGE IF NEEDED.

This section applies only to requirements of the Paperwork Reduction Act of 1995.

DO NOT SEND YOUR COMPLETED FORM TO THE PRA STAFF EMAIL ADDRESS BELOW.

The burden time for this collection of information is estimated to average 79 hours per response, including the time to review instructions, search existing data sources, gather and maintain the data needed and complete and review the collection of information. Send comments regarding this burden estimate or any other aspect of this information collection, including suggestions for reducing this burden, to:

Department of Health and Human Services
Food and Drug Administration
Office of Chief Information Officer
Paperwork Reduction Act (PRA) Staff
PRAStaff@fda.hhs.gov

"An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB number."

Elecsys Anti-SARS-CoV-2
510(k) Summary (k250768)

This summary of 510(k) safety and effectiveness information is being submitted in accordance with the requirements of 21 CFR 807.92.

Submitter Name	Roche Diagnostics
Address	9115 Hague Rd Indianapolis, IN 46256
Contact	Tammy Dean Phone: (317) 450-5193 Email: tammy.dean@roche.com
Date Prepared	May 27, 2025
Proprietary Name	Elecsys Anti-SARS-CoV-2
Common Name	SARS-CoV-2 serology test
Classification Name	SARS-CoV-2 serology test
Regulation Number	866.3983
Product Codes	QVP
Predicate Device	DEN210040: VITROS Immunodiagnostic Products Anti-SARS-CoV-2 Total Reagent Pack, VITROS Immunodiagnostic Products Anti-SARS-CoV-2 Total Calibrator

1. DEVICE DESCRIPTION

Elecsys Anti-SARS-CoV-2 is a qualitative, serological, double-antigen sandwich principle immunoassay to be used on the **cobas e** 601 analyzer with an 18-minute test time. Results are determined automatically by the software by comparing the electrochemiluminescence signal obtained from the reaction product of the sample with the signal of the cutoff value previously obtained by calibration. The Elecsys Anti-SARS-CoV-2 assay uses a recombinant protein representing the nucleocapsid (N) antigen for the determination of antibodies against SARS-CoV-2.

The reagent working solutions include: rackpack (kit placed on the analyzer)

- M Streptavidin-coated microparticles (transparent cap), 1 bottle, 12 mL: Streptavidin-coated microparticles 0.72 mg/mL; preservative.
- R1 SARS-CoV-2-Ag~biotin, (gray cap), 1 bottle, 16 mL: Biotinylated SARS-CoV-2-specific recombinant antigen (E. coli) < 0.5 mg/L; HEPES[a]) buffer 50 mmol/L, pH 7.7; preservative.
- R2 SARS-CoV-2 Ag~Ru(bpy) (black cap), 1 bottle, 16 mL: SARS-CoV-2-specific recombinant antigen labeled with ruthenium complex < 0.5 mg/L; HEPES(b) buffer 50 mmol/L, pH 7.7; preservative.

(a) HEPES = [4-(2-hydroxyethyl)-piperazine]-ethane sulfonic acid

The Elecsys Anti-SARS-CoV-2 assay includes two liquid calibrators, which are packed with the test kit:

- ACOV2 Cal1 Negative calibrator 1 (white cap), 2 bottles of 0.67 mL: Human serum, non-reactive for anti-SARS-CoV-2 antibodies; buffer; preservative.
- ACOV2 Cal2 Positive calibrator 2 (black cap), 2 bottles of 0.67 mL: Human serum, reactive for anti-SARS-CoV-2 antibodies; buffer; preservative.

2. INDICATIONS FOR USE

Elecsys Anti-SARS-CoV-2 is an immunoassay intended for the in vitro qualitative detection of total antibodies to Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) in human

serum and Li-heparin, K_2-EDTA and K_3-EDTA plasma collected on or after 15 days post-symptom onset. The test is intended as an aid in identifying individuals with an adaptive immune response to SARS-CoV-2, indicating recent or prior infection.

The electrochemiluminescence immunoassay "ECLIA" is intended for use on **cobas e** 601 immunoassay analyzer.

3. INDICATIONS FOR USE COMPARISON

The electrochemiluminescent immunoassay, Elecsys Anti-SARS-CoV-2, is substantially equivalent to the chemiluminescent immunoassay, VITROS Immunodiagnostic Products Anti-SARS-CoV-2 Total Reagent Pack. Both test systems are for the qualitative detection of antibodies to SARS-CoV-2 in human serum and plasma samples collected on or after 15 days post-symptom onset. This VITROS predicate is used as part of a composite comparator method used in the clinical study. The data for Elecsys Anti-SARS-CoV-2 immunoassay supports substantial equivalence to the VITROS Immunodiagnostic Products Anti-SARS-CoV-2 Total Reagent Pack, VITROS Immunodiagnostic Products Anti-SARS-CoV-2 Total Calibrator.

4. TECHNOLOGICAL CHARACTERISTICS

The immunoassays have similar technological characteristics.

Characteristic	Predicate DEN210040: VITROS Immunodiagnostic Products Anti-SARS-CoV-2 Total	Candidate k250768: Elecsys Anti-SARS-CoV-2
Intended Use	The VITROS Immunodiagnostic Products Anti-SARS-CoV-2 Total Reagent Pack when used in combination with the VITROS Immunodiagnostic Products Anti-SARS-CoV-2 Total Calibrator is a chemiluminescent immunoassay intended for the qualitative detection of total antibodies to SARS-CoV-2 in human serum and plasma (K_2-EDTA, K_3-EDTA and lithium heparin) samples collected on or after 15 days post-symptom onset using the VITROS ECi/ECiQ/3600 Immunodiagnostic Systems and the VITROS 5600/XT 7600 Integrated Systems. The VITROS Immunodiagnostic Products Anti-SARS-CoV-2 Total test is intended for use as an aid in identifying individuals with an adaptive immune response to SARS-CoV-2. indicating recent or prior infection.	Elecsys Anti-SARS-CoV-2 is an immunoassay intended for the in vitro qualitative detection of total antibodies to Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) in human serum and Li-heparin, K_2-EDTA and K_3-EDTA plasma collected on or after 15 days post-symptom onset. The test is intended as an aid in identifying individuals with an adaptive immune response to SARS-CoV-2, indicating recent or prior infection. The electrochemiluminescence immunoassay "ECLIA" is intended for use on **cobas e** 601 immunoassay analyzer.
Detection Method	Chemiluminescent	Electrochemiluminescence "ECLIA"

5. NON-CLINICAL PERFORMANCE EVALUATION

Precision: Intermediate precision (within laboratory precision) and repeatability (within-run precision) were assessed for the Elecsys Anti-SARS-CoV-2 assay according to CLSI EP05-A3 with 2 runs per day for 21 days and 2 aliquots per sample. One reagent lot was measured, with calibration performed according to the method sheet instructions, at the beginning of the study, then as needed per package insert instructions. Standard Deviation (SD) and Coefficient of Variance (CV) were calculated for repeatability, between-run, between-day and within-laboratory precision for the system. Data were calculated according to CLSI EP05-A3, including the 95% confidence interval (CI). All samples met the predetermined acceptance criteria. Results are summarized in the table below:

cobas e 601 analyzer									
		Repeatability[a)]		**Between-Run**		**Between-Day**		**Intermediate precision**[b)]	
Sample	Mean COI	SD COI	CV %	SD COI	CV %	SD COI	CV %	SD COI	CV %
Human specimen 1	4.90	0.084	1.7	0.045	0.9	0.216	4.4	0.236	4.8

cobas e 601 analyzer									
		Repeatability[a)]		**Between-Run**		**Between-Day**		**Intermediate precision[b)]**	
Sample	Mean COI	SD COI	CV %	SD COI	CV %	SD COI	CV %	SD COI	CV %
Human specimen 2	0.063	0.002	2.5	0.001	1.3	0.002	3.8	0.003	4.7
Human specimen 3	0.869	0.014	1.6	0.017	2.0	0.035	4.0	0.042	4.8
Human specimen 4	20.8	0.388	1.9	0.153	0.7	1.09	5.3	1.17	5.6
Human specimen 5	1.14	0.020	1.7	0.021	1.9	0.049	4.3	0.057	5.0
Human specimen 6	0.910	0.020	2.2	0.010	1.0	0.052	5.7	0.057	6.2
Human specimen 7	0.063	0.002	2.7	0.001	1.2	0.003	4.2	0.003	5.1
Human specimen 8	0.977	0.015	1.5	0.015	1.6	0.053	5.5	0.058	5.9
PC ACOV2[c)] 1	0.076	0.002	2.4	0.000	0.0	0.003	4.1	0.004	4.8
PC ACOV2 2	2.53	0.028	1.1	0.041	1.6	0.140	5.5	0.149	5.9

a) Repeatability = within-run precision

b) Intermediate precision = within laboratory

c) PC ACOV2 = PreciControl Anti-SARS-CoV-2

Reproducibility: The study was performed at three sites with three reagent lots per site for five days using native human serum pools. Overall Repeatability, Between-Run, Between-Day, Between-Lot, Between-Site and Reproducibility were calculated. Data calculation was performed according to CLSI EP05-A3. All samples met the predetermined acceptance criteria. Results are summarized below:

			Repeatability		**Between-Run**		**Between-Day**		**Between-Lot**		**Between-Site**		**Reproducibility**	
Sample	**Mean COI**	**N**	**SD**	**%CV**	**SD**	**%CV**	**SD**	**%CV**	**SD**	**%CV**	**SD**	**%CV**	**SD**	**%CV**
PC ACOV2 1	0.101	270	0.004	3.52	0.001	0.684	0.002	1.90	0.002	1.76	0.005	5.02	0.007	6.69
PC ACOV2 2	2.79	270	0.038	1.38	0.018	0.636	0.030	1.06	0.037	1.32	0.009	0.326	0.064	2.30
Human specimen 3	0.086	270	0.003	3.67	0.002	1.83	0.002	1.92	0.002	2.19	0.005	5.66	0.007	7.57
Human specimen 4	0.516	270	0.007	1.27	0.003	0.492	0.007	1.34	0.016	3.09	0.003	0.546	0.019	3.67
Human specimen 5	2.53	270	0.036	1.44	0.014	0.543	0.033	1.29	0.050	1.99	0.035	1.38	0.080	3.14
Human specimen 6	7.39	270	0.106	1.44	0.027	0.366	0.087	1.17	0.287	3.88	0.120	1.63	0.341	4.61

Hook Effect: Three samples that presented as very high positive for anti-SARS-CoV-2 antibodies were each serially diluted with an anti-SARS-CoV-2 antibody negative sample. All dilution steps were tested in single determination on the **cobas e** 601 immunoassay analyzer. No hook effect was observed for the samples tested.

Potential Interference - Endogenous Substances: The recovery of analyte values in the presence of Biotin using the Elecsys Anti-SARS-CoV-2 assay was determined on the **cobas e** 601 immunoassay analyzer. One aliquot of each serum sample was spiked with 3600 ng/mL Biotin (interference pool); another aliquot was spiked with the same volume of isotonic NaCl solution (dilution pool). The interfering pool was then diluted into the dilution pool in 10 % increments. The recovery for each sample was calculated by comparison to the reference (unspiked) sample. The resulting data show Biotin tolerance of ≤ 1200 ng/mL.

The recovery of analyte values in the presence of bilirubin, hemoglobin, intralipid, rheumatoid factors, IgG, IgA, IgM, human serum albumin, triglycerides, cholesterol, and anti-nuclear antibodies (ANA) on assay performance using the Elecsys Anti-SARS-Cov-2 assay was determined on the **cobas e** 601 immunoassay analyzer.

Dilution series with 10 dilution steps were prepared for all interfering substances starting by diluting samples spiked with a high concentration of the interference substance with the exception of ANA, where a high ANA concentration was tested without titration. The recovery for each sample was calculated by comparison to the reference (unspiked) sample.

The data show no interference of Intralipid within the specification up to 2000 mg/dL. The data show no interference of Bilirubin within the specification up to 66 mg/dL. The data show no interference of Hemoglobin within the specification up to 1000 mg/dL. The data show no interference of Rheumatoid Factor within the specification up to 1200 IU/mL. The data show no IgG interference within the specification up to 7.0 g/dL. The data show no IgM interference within the specification up to 1.0 g/dL. The data show no IgA interference within the specification up to 1.6 g/dL. The data show no human serum albumin interference within the specification up to 7 g/dL. The data show no ANA interference at a dilution titer of 1:1280. The data show now interference of cholesterol up to 400 mg/dL and triglycerides up to 2000 mg/dL.

Analytical Cutoff Sensitivity: The analytical cutoff sensitivity was established using the First International Standard for anti-SARS-CoV_2 immunoglobulin (human) code: 20/136. The data analysis shows that a cutoff of 1.00 COI corresponds to 1.137 BAU/mL using the Elecsys Anti-SARS-CoV-2 assay.

Analytical Specificity- Potential Cross-Reactivity: A study was conducted to assess the influence of potentially cross-reacting antibodies to pathogens other than SARS-CoV-2 or autoimmune disorders on the performance of the Elecsys Anti-SARS-CoV-2 assay.

Human serum and plasma samples and sample pools, negative for anti-SARS-CoV-2 (collected before December 2019) but containing potentially cross-reacting antibodies to pathogens other than SARS-CoV-2 and autoimmune disorders were tested. Samples were tested in single determination.

For this study, a total of 1836 clinical samples were tested with the Elecsys SARS-CoV-2 assay. 2 out of 7 samples containing antibodies to MERS-CoV Glycoprotein showed false positive results.

Exogenous Interference: The studies were completed for Elecsys Anti-SARS-CoV-2 assay with 17 common drugs and 18 special drugs at a concentration 3 times the daily dose. Testing was performed on two **cobas e** 601 immunoassay analyzers with plasma samples with different amount of analyte (i.e. negative, low positive, and high positive). Drug concentrations according to CLSI EP37 were measured in 5 determinations. Results from common drugs met the acceptance criteria, so, no interference was observed.

Results from special drugs met specifications at three times the daily dose with the exception of Ritonavir. Ritonavir was within specification at one time the daily dose.

Matrix Comparison: The effect on the Elecsys Anti-SARS-CoV-2 performance was evaluated using matched serum and plasma collection tubes on specimens collected from 60 donors. Samples were evaluated in singlicate with one reagent lot. Matrix equivalency was determined by comparing the numerical values obtained from matched human serum samples and samples drawn into Serum, Li-Heparin, K_2-EDTA, and K_3-EDTA plasma tubes. The results were within specification and support the use of Serum, Li-Heparin, K_2-EDTA, and K_3-EDTA plasma for Elecsys Anti-SARS-CoV-2.

Additionally, sample pairs from at least six donors drawn in serum or plasma tubes and in serum or plasma separation tubes (containing separation gel) from three different manufacturers were

compared. Measurements were performed on the **cobas e** 601 analyzer in duplicate with one reagent lot and evaluated on the basis of deviation/recovery relative to the reference tube without separating gel. The data support the usage of Elecsys Anti-SARS-CoV-2 with serum tubes containing separating gel and Li-Heparin and K_2-EDTA plasma tubes containing separating gel.

Reagent, Calibrator, and Control Stability: Elecsys Anti-SARS-CoV-2 reagent kits can be stored on board the analyzers for up to 28 days. On-board reagent stability for the Elecsys Anti-SARS-CoV-2 assay was tested on one **cobas e** 601 analyzer.

A freshly opened reagent RackPack was placed on the analyzer and calibrated and eight serum samples were measured in duplicate. After 8 days, 15 days and 30 days storage under on-board conditions (reagent kit kept at 20°C ± 3°), new aliquots of the samples were thawed and measured again in duplicate. Calibration was performed according to package insert. Elecsys Anti-SARS-CoV-2 reagent kits can be stored on-board the analyzers for up to 4 weeks (28 days).

PreciControl Anti-SARS-CoV-2 can be stored on-board the analyzers for up to 10 hours. The control was assessed by storing the control vials at 20-25°C for 11 hours. The stressed material was measured in duplicate on the **cobas e** 601 analyzer in the same run as the unstressed (stored at 2-8°C) controls.

Reagent stability after first opening for the Elecsys Anti-SARS-CoV-2 assay was tested on one **cobas e** 601 analyzer. A fresh reagent RackPack was placed on the analyzer on Day 0 and was calibrated. After measurement of the samples in duplicate, the Rack-Pack was removed from the instrument and stored in the refrigerator closed at 2 – 8°C. After 8, 22, and 37 days, frozen aliquots of the same samples were measured again in duplicate. Elecsys Anti-SARS-CoV-2 reagent kits can be stored at 2-8°C for up to 30 days after first opening.

PreciControl Anti-SARS-CoV-2 stability after first opening was tested on one **cobas e** 601 analyzer. The controls can be stored at 2-8°C for up to 28 days after first opening. The control vials were opened and stored at 25°C for 1 hour on the **cobas e** 601 immunoassay analyzer. After 1 hour, the vials were closed and stored at 2-8°C for 29 days (stressed). On day 29 after opening, the stressed material was measured in duplicate with unopened (unstressed reference) controls in the same run.

An unstressed RackPack of Elecsys Anti-SARS-CoV-2 reagent lot was calibrated on the **cobas e** 601 analyzer. Eight human samples were tested in duplicate determinations. Aliquots of the samples were frozen. After 26 days, aliquots of the samples were thawed and reagents of the

same lot were run again using the initial calibration of day 0 to demonstrate the stability of the initial calibration. The resulting data support the package-insert claim of 25 days lot calibration stability.

On-board calibration stability for the Elecsys Anti-SARS-CoV-2 assay was tested on one **cobas e** 601 immunoassay analyzer. A fresh reagent RackPack (stored refrigerated at 2 - 8°C) was placed on the analyzer and calibrated. Samples were measured in duplicate with the unstressed reagent kit on day 0. Aliquots of the samples were frozen. The reagent kit was then stored under on-board conditions for 8 days on a **cobas e** 601 immunoassay analyzer. The frozen aliquots were thawed and measured again, using the initial calibration for calculation. The resulting data support the package-insert claim of 7 days on-board calibration stability.

Specimen Stability: In order to assess specimen stability for Elecsys Anti-SARS-CoV-2 at 15 - 25°C, 24 samples of each specimen type (Serum, Li-Heparin plasma, EDTA plasma) were aliquoted after blood sampling and stored at -80°C. For each sample the aliquot stored at - 80°C served as a reference and the corresponding aliquot after storage at 15 - 25°C were measured on the **cobas e** 601 analyzer using the Elecsys Anti-SARS-CoV-2 assay. One reagent and calibrator lot was used for the measurements. Calibration was performed according to the method sheet instructions. Measurements were performed in three-fold determination and recovery was calculated as percent or absolute deviation of the reference value (t0). Acceptance criteria were fulfilled for 8 days, which supports the package insert claim that samples can be stored for 7 days at 15 - 25°C.

In order to assess specimen stability for Elecsys Anti-SARS-CoV-2 at 2 - 8°C, 24 samples of each specimen type (Serum, Li-Heparin plasma K_2-EDTA-plasma, K_3-EDTA) were aliquoted after blood sampling and stored at - 80°C. For each sample the aliquot stored at - 80°C served as a reference and the corresponding aliquot after storage at 2-8°C were measured on the **cobas e** 601 analyzer using the Elecsys Anti-SARS-CoV-2 assay. One reagent and calibrator lot was used for the measurements. Calibration was performed according to the method sheet instructions. Measurements were performed in three-fold determination and recovery was calculated as percent or absolute deviation of the reference value (t0). Acceptance criteria were fulfilled and support the claim in the package insert that samples can be stored for 14 days at 2 - 8°C to be used with Elecsys Anti-SARS-CoV-2.

In order to assess specimen stability for Elecsys Anti-SARS-CoV-2 at -20°C (±5°C), 24 samples of each specimen type (Serum, Li-Heparin plasma, K_2-EDTA, K_3-EDTA) were aliquoted after

blood sampling and stored at - 80°C. For each sample, the aliquot stored at - 80°C (served as a reference) and the corresponding aliquot after storage at - 20°C (±5°C) were measured on the **cobas e** 601 analyzer using the Elecsys Anti-SARS-CoV-2 assay. One reagent and calibrator lot was used for the measurements. Calibration was performed according to the method sheet instructions. Measurements were performed in three-fold determination and recovery was calculated as percent or absolute deviation of the reference value (t0). Acceptance criteria were fulfilled and support the claim in the package insert that samples can be stored for 28 days at - 20°C (±5°C).

In order to assess specimen stability for Elecsys Anti-SARS-CoV-2 after freezing and thawing, 24 samples of each specimen type (Serum, Li-Heparin plasma, K_2-EDTA-plasma, K_3-EDTA) were aliquoted after blood sampling and stored at - 80°C. For each sample, the aliquot stored at - 80°C served as a reference after initial thawing and the corresponding aliquot after freezing at - 20°C (±5°C) and thawing measured on the **cobas e** 601 analyzer using the Elecsys Anti-SARS-CoV-2 assay. One reagent and calibrator lot was used for the measurements. Calibration was performed according to the method sheet instructions. Measurements were performed in three-fold determination and recovery was calculated as percent or absolute deviation of the reference value (t0). Acceptance criteria were fulfilled and supports the package insert claim that samples can be frozen and thawed three times to be used with Elecsys Anti-SARS-CoV-2.

A fresh/frozen study was conducted to show that the results of samples for Elecsys Anti-SARS-COV-2 are comparable if they had been frozen or measured directly after blood draw (fresh). In total, 64 samples of each specimen type (Serum, Li-Heparin plasma, K_2-EDTA, K_3-EDTA) were measured on one **cobas e** 601 analyzer. Fresh and frozen native and contrived samples were tested. Negative, low positive, moderate positive, and high positive samples were tested. All results were within specification.

6. CLINICAL PERFORMANCE EVALUATION

The clinical performance claims of the Elecsys Anti-SARS-CoV-2 immunoassay were established using data from a traditional clinical study and real-world data.

Traditional Clinical Study:

- Negative Percent Agreement (NPA):

A total of 9007 pre-pandemic specimens were tested with the Elecsys Anti-SARS-CoV-2 immunoassay. These specimens were obtained before December 2019 and are presumed to be negative for anti-SARS-CoV-2 antibodies. Acceptance criteria were met.

Out of 9007 specimens, 17 false positive results were observed, resulting in an NPA of 99.81 %. The lower limit of the 95 % confidence interval was 99.70 %.

- Positive Percent Agreement (PPA):

The Elecsys Anti-SARS-CoV-2 was evaluated in a clinical performance evaluation study in which results were obtained under routine laboratory conditions and compared to the results of a composite comparator method comprised of 3 SARS-CoV-2 serology assays (including the predicate assay). SARS-CoV-2 seropositivity was determined by majority rule (≥ 2 out of 3) of FDA-de novo and Emergency Use Authorized (EUA) Anti-SARS-CoV-2 serology assays(composite comparator method). Performance of Elecsys Anti-SARS-CoV-2 relative to the composite comparator was established using specimens collected from individuals with a history of SARS-CoV-2 infection confirmed by a prior SARS CoV-2 positive test result using an FDA authorized RT PCR test and calculated and reported as PPA. Serum and plasma samples were tested at 2 clinical laboratories on the **cobas e** 601 analyzer. Due to clinical relevance, the performance of the Elecsys Anti-SARS-CoV-2 immunoassay was determined by the results from samples collected ≥ 15 days post symptom onset (DPSO) (excluding COVID-19 vaccinated individuals and immunocompromised subjects). Of 254 tested specimens collected ≥15 DPSO, 251 were positive, supporting a PPA of 98.82% (95% CI 96.59 - 99.60%).

PPA Estimation Using Real-World Data:

The clinical performance of the Elecsys Anti-SARS-CoV-2 immunoassay was assessed using real-world data with PCR as the comparator where samples were collected during routine clinical practice at a collaborating institution in the United States from March 2020 – March 2021 when the original B.1 lineage of the Wuhan-Hu-1 strain was the prevalent strain. Test data (Elecsys Anti-SARS-CoV-2 and PCR), patient demographics, and clinical variables were collected from electronic medical records and laboratory information system and PPA was calculated. For samples from non-immunocompromised subjects and subjects that did not receive the COVID-

19 vaccine, collected ≥ 15 DPSO, 275 of 285 results were positive with the Elecsys Anti-SARS-CoV-2 immunoassay demonstrating a PPA of 96.49% (95% CI 93.66 -98.08%).

7. CONCLUSIONS

The analytical and clinical performance observed demonstrate that the Elecsys Anti-SARS-CoV-2 assay is substantially equivalent to the predicate.