Instructions for Use

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Cortisol Saliva ELISA

Enzyme Immunoassay for the quantitative determination of free cortisol in human saliva.

REF **RE52611**

Σ **96**

2°C 8°C

EU: IVD CE 2797

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REVISION HISTORY OF INSTRUCTIONS FOR USE

Changes from the previous version 2020-04 to actual version 2023-04	
Cover page	Layout change
Chapter 2	Additional chapter
Chapter 3	Update to scientific validity
Chapter 5	Additional information
Chapter 7	Additional information
Chapter 8	Additional information
Chapter 11	Layout change / Update / Additional information
Chapter 13	Additional information
Chapter 15	Additional information
Chapter 16	Additional information
Chapter 17	Additional information
Chapter 19	Update literature

1. INTENDED USE

Enzyme immunoassay for the quantitative determination of free Cortisol in human saliva.

2. INTENDED PURPOSE

The Cortisol Saliva ELISA is intended for the quantitative determination of cortisol in human saliva in adults and for use as an aid in the diagnosis and treatment of adrenal disorders.
The information in addition to other clinical observations and diagnostic test is useful in assessing the level of adrenal function as a determination of physiological status in adults.
The Cortisol Saliva ELISA is a solid phase enzyme-linked immunosorbent assay (ELISA), based on the principle of competitive binding and measured on an absorbance reader. The assay is semi-automated requiring general purpose laboratory instruments and consumables such as absorbance microplate reader/washer, vortexer and pipettes to execute the test.
The assay is adaptable by laboratory personnel to automate on open ELISA based liquid handler platforms; the programming of the steps and timing required must be verified by the laboratory. Test results are calculated from a standard curve and compared to laboratory established reference ranges from healthy adults (i.e. normal ranges).
The test kit is intended for professional laboratory use by trained personnel. The test kit is not for self-testing. The Cortisol Saliva ELISA is not intended for near-patient testing.

3. SUMMARY AND EXPLANATION

Cortisol is the most important steroid hormone. It is produced by the adrenal cortex from low-density lipoprotein cholesterol via multiple steps of enzymatic reactions (Wild, 2013, Immunoassay Handbook p. 696). About 80 % of the 17-Hydrocorticoidsteroids in circulation are cortisol, while 90 % are protein-bound and the remaining is freely available, which is biologically active and can be measured in saliva, serum and urine.[1] Cortisol concentration underlies a diurnal fluctuation in adults, reaching a peak around 30 - 60 minutes after awakening, the Cortisol Response to Awakening, before the level is decreasing in the afternoon and remaining low until the next morning.[2] The cortisol measurement is indicated in diseases with abnormal gluco-corticoid production: hypercortisolism e.g. Cushing Syndrome.[3; 4]
Hypercortisolism, the clinical condition that results from excessive secretion of cortisol, is termed Cushing's Syndrome, while the underproduction in hypocortisolism e.g. Addison's disease, both will be addressed in more depth in the following paragraphs.
Cushing's Syndrome is more common in women, and the chronic excess of cortisol can lead to a number of symptoms and signs including obesity, easy bruising, purple abdominal striae, hirsutism, acne and greasy skin, hypertension, muscular weakness, menstrual disturbances, depression, and osteoporosis.[3; 5; 6]
While adrenal insufficiency, hypocortisolism, is manifested in primary adrenal insufficiency e.g. Addison's disease. Thomas Addison described a group of patients with anemia and diseased adrenal glands, which is now known as primary adrenal insufficiency or also cited as Addison's disease (Michels and Michels, 2014) [7].
Salivary cortisol determinations have gained a wider acceptance in psychobiology, stress and sports medicine studies.[5; 6] Their use is based on the assumption that salivary cortisol is a reasonable reflection of hypothalamic-pituitary-adrenal (HPA) axis function. Late-night salivary cortisol (LNSC) is a reliable method to rule in or rule out Cushing's disease. Indeed, in the diagnostic setting, salivary cortisol levels parallel those in plasma following ACTH and CRH stimulation, and following exercise induced stress.[8; 9]

4. TEST PRINCIPLE

Solid phase enzyme-linked immunosorbent assay (ELISA) based on the competition principle. An unknown amount of antigen present in the sample and a fixed amount of enzyme labelled antigen compete for the binding sites of the antibodies coated onto the wells. After incubation, the wells are washed to stop the competition reaction. After the substrate reaction, the intensity of the developed colour is inversely proportional to the amount of the antigen in the sample. Results of samples can be determined directly using the standard curve.

5. WARNINGS AND PRECAUTIONS

1. For *in-vitro diagnostic* use only. For professional use only.
2. Before starting the assay, read the instructions completely and carefully. Use the valid version of the package insert provided with the kit. Be sure that everything is understood.
3. In case of severe damage of the kit package please contact IBL or your supplier in written form, latest one week after receiving the kit. Do not use damaged components in test runs, but keep safe for complaint related issues.
4. Broken glass may cause injury. Handle glass vessels with caution.
5. Obey lot number and expiry date. Do not mix reagents of different lots. Do not use expired reagents.
6. Follow good laboratory practice and safety guidelines. Wear lab coats, disposable latex gloves and protective glasses where necessary.
7. Reagents of this kit containing hazardous material may cause eye and skin irritations. See MATERIALS SUPPLIED and labels for details. Safety Data Sheets for this product are available on the IBL-Homepage or upon request directly from IBL.
8. Chemicals and prepared, used, unused or expired reagents have to be treated as hazardous waste according to national biohazard and safety guidelines or regulations.
9. The cleaning staff should be guided by the professionals regarding potential hazards and handling.
10. All serious incidents that have occurred in relation to the device shall be reported to the manufacturer and the competent authority of the Member State in which the user and/or the patient is established.
11. Some reagents contain ProClin 300 as preservative. In case of contact with eyes or skin, flush immediately with water. When disposing reagents, flush with a large volume of water to avoid built-up.
12. The device contains material of animal origin, which is certified apparently free of infectious or contagious diseases and injurious parasites. Still the material should be handled with extreme caution.
13. Avoid contact with Stop solution. It may cause skin irritations and burns.
14. The summary of safety and performance is currently only available from the manufacturer on request. As soon as the European database on medical devices (Eudamed) (https://ec.europa.eu/tools/eudamed) is online, the summary of safety and performance will be uploaded by IBL's notified body and can be easily found using the following Basic UDI-DI 4049325IVR06020001CR3.

6. STORAGE AND STABILITY

The kit is shipped at ambient temperature and should be stored at 2 - 8°C. Keep away from heat or direct sunlight. The storage and stability of specimens and prepared reagents is stated in the corresponding chapters.

The microtiter strips are stable up to the indicated expiry date after the kit is opened. Make sure that the opened bag is tightly closed when stored at 2 - 8°C.

7. SPECIMEN COLLECTION AND STORAGE

Specimen collection

The use of topical creams or medication containing prednisolone and 11-Deoxycortisol should be avoided as they can cause preanalytical contamination of the saliva sample.
The patient should not eat, drink, chew gums or brush teeth for 30 minutes before sampling.
Do not collect samples when oral diseases, inflammation or lesions exist (blood contamination).
Reddish colour is indicating blood contamination and leading to wrong results.
Rinse mouth thoroughly with cold water 5 minutes prior to sample collection.
Saliva flow can be stimulated by chewing on a piece of Parafilm®.
Saliva can be collected in a suitable sampling device.
Salivette® tubes with additives should not be used as leading to wrong results.
Suitable sampling device is e.g. the Salivette® Cortisol (without additives) from SARSTEDT.
A minimum of 0.5 mL liquid should be collected.
Securely cap the collection tube and label with date / time and patient ID.
It is recommended to freeze samples at -20°C prior to laboratory testing.
After thawing, mix and centrifuge 10 minutes at 2000 - 3000 x g to remove particulate material.

Cortisol Rhythm pattern:
At least four saliva samples must be collected during a single day as follows: Sample one collected directly after waking up, sample two 60 - 90 minutes after wakeup, sample three at 5 PM and sample four at 10 PM.

Cortisol Single-sample evaluation:
A single sample must be collected in the morning (within 90 minutes after wake up).

Specimen storage

Saliva samples can be stored at 18 - 25°C for ≤ 14 days.
It is recommended to freeze samples and store at -20°C for long time storage (< 6 months).
It is recommended to limit the number of freeze /thaw cycles to a maximum of 5.
Keep away from heat or direct sunlight.

8. MATERIALS SUPPLIED

Quantity	Symbol	Origin	Component
1 x 12 x 8	**MTP**	BIO	**Microtiter Plate** Break apart strips. MTP (12 strips of 8 wells each) Coated with anti-cortisol antibodies (rabbit) in solution containing < 0.1 % sodium azide. Vacuum dried.
1 x 13 mL	**ENZCONJ**	BIO	**Enzyme Conjugate** Ready to use. Yellow colored. Contains: Cortisol (chromatographically purified), conjugated to HRP, ≤ 0.01 % ProClin 300 (w/w) and bovine serum albumin.
1 x 3.5 mL 5 x 1.0 mL	**CAL A-F**	BIO	**Standard A-F** Ready to use. 0; 0.015; 0.04; 0.17; 0.70; 3.00 µg/dL 0; 0.15; 0.4; 1.7; 7.0; 30 ng/mL 0; 0.41; 1.10; 4.69; 19.3; 82.8 nmol/L Contains: Cortisol, ≤ 0.1 % ProClin (w/w) and bovine serum albumin.
2 x 1.0 mL	**CONTROL 1+2**	BIO	**Control 1+2** Ready to use. Contains: Cortisol, low and high, ≤ 0.1 % ProClin (w/w) and bovine serum albumin. Exact concentrations see vial labels or QC certificate.
1 x 15 mL	**TMB SUBS**		**TMB Substrate Solution** Ready to use. Contains 3,3',5,5' Tetramethylbenzidine solution
1 x 15 mL	**TMB STOP**		**TMB Stop Solution** Ready to use. Contains 1 M sulfuric acid.
1 x 100 mL	**WASHBUF CONC**		**Wash Buffer** Concentrate (10x) Phosphate buffer containing 0.5 % Tween 20 (w/w).
3 x	**FOIL**		**Adhesive Foil**

9. MATERIALS REQUIRED BUT NOT SUPPLIED

1. Micropipettes (Multipette Eppendorf or similar devices, < 3 % CV). Volume: 5; 20; 50; 100; 1000 µL
2. A suitable sampling device should be used.
3. Orbital shaker (400 - 600 rpm)
4. Vortex mixer
5. 8-Channel Micropipette with reagent reservoirs
6. Wash bottle, automated or semi-automated microtiter plate washing system
7. Microtiter plate reader capable of reading absorbance at 450 nm (reference wavelength 600 - 650 nm)
8. Bidistilled or deionised water
9. Paper towels, pipette tips and timer

10. PROCEDURE NOTES

1. Any improper handling of samples or modification of the test procedure may influence the results. The indicated pipetting volumes, incubation times, temperatures and pre-treatment steps have to be performed strictly according to the instructions. Use calibrated pipettes and devices only.
2. Once the test has been started, all steps should be completed without interruption. Make sure that required reagents, materials and devices are prepared ready at the appropriate time. Allow all reagents and specimens to reach room temperature (18 - 25°C) and gently swirl each vial of liquid reagent and sample before use. Mix reagents without foaming.
3. Avoid contamination of reagents, pipettes and wells/tubes. Use new disposable plastic pipette tips for each component and specimen. Do not interchange caps. Always cap not used vials. Do not reuse wells/tubes or reagents.
4. It is advised to perform duplicate measurements to be able to identify potential pipetting errors.
5. Use a pipetting scheme to verify an appropriate plate layout.
6. Incubation time affects results. All wells should be handled in the same order and time sequences. It is recommended to use an 8-channel Micropipettor for pipetting of solutions in all wells.
7. Microtiter plate washing is important. Improperly washed wells will give erroneous results. It is recommended to use a multichannel pipette or an automatic microtiter plate washing system. Do not allow the wells to dry between incubations. Do not scratch coated wells during rinsing and aspiration. Rinse and fill all reagents with care. While rinsing, check that all wells are filled precisely with Wash Buffer, and that there are no residues in the wells.
8. Humidity affects the coated wells/tubes. Do not open the pouch until it reaches room temperature. Unused wells/tubes should be returned immediately to the resealed pouch including the desiccant.

11. PRE-TEST SETUP INSTRUCTIONS

11.1. Preparation of concentrated components

The contents of the kit for 96 determinations can be divided into 3 separate runs.

The volumes stated below are for one run with all strips (96 determinations).

Dilute / dissolve	Component		Diluent	Relation	Remarks	Storage	Stability
100 mL	**WASHBUF CONC**	ad 1000 mL	bidist. water	1:10	Mix vigorously	2 - 8°C	8 weeks

11.2. Dilution of Samples

Samples suspected to contain concentrations higher than 2.2 µg/dL have to be diluted with Standard A. In case of diluted samples the values have to be multiplied with the corresponding dilution factor.

12. TEST PROCEDURE

1.	Pipette **50 µL** of each **Standard, Control and sample** into the respective wells of the microtiter plate.
2.	Pipette **100 µL** of **Enzyme Conjugate** into each well. Cover plate with adhesive foil. Shake plate carefully.
3.	**Incubate 2 hours** at **18 - 25°C** (room temperature) on an orbital shaker (400 - 600 rpm).
4.	Remove adhesive foil. Discard incubation solution. Wash plate **4 x** with **250 µL** of diluted **Wash Buffer**. Remove excess solution by tapping the inverted plate on a paper towel.
5.	Pipette **100 µL** of **TMB Substrate Solution** into each well.
6.	**Incubate 30 minutes** at **18 - 25°C** on an orbital shaker (400 - 600 rpm).
7.	Stop the substrate reaction by adding **100 µL** of **TMB Stop Solution** into each well. Shake briefly. Color changes from blue to yellow.
8.	**Measure** optical density with a photometer at **450 nm** (Reference-wavelength: 600 - 650 nm) within **15 minutes** after pipetting of the Stop Solution.

The ELISA protocol recommend shaking during incubations, the assay can also performed without shaking. A study, with and without shaking during incubations, show a correlation of 0.998.

13. AUTOMATION

Automated protocols can be provided for open ELISA systems: Freedom EVOlyzer®, ThunderBolt® and DSX®. For further information please contact: ProductSupport.IBL@tecan.com

For the use of products on automated instruments it is absolutely necessary to perform and maintain a validation according to legal requirements. A successful validation of the process is a prerequisite for diagnostic use. The responsibility for the implementation and documentation of validation in accordance with the country-specific requirements is assumed by the organization or institution.

14. QUALITY CONTROL

The test results are only valid if the test has been performed following the instructions. Moreover, the user must strictly adhere to the rules of GLP (Good Laboratory Practice) or comparable standards/laws. User and/or laboratory must have a validated system to get diagnosis according to GLP. All kit controls must be found within the acceptable ranges as stated on the labels and the QC certificate. If the criteria are not met, the run is not valid and should be repeated. Each laboratory should use known samples as further controls.

In case of any deviation the following technical issues should be proven: Expiration dates of (prepared) reagents, storage conditions, pipettes, devices, incubation conditions and washing methods.

It is recommended to participate at appropriate quality assessment trials.

15. CALCULATION OF RESULTS

The obtained ODs of the standards (y-axis, linear) are plotted against their concentration (x-axis, logarithmic) either on semi-logarithmic graph paper or using an automated method. A good fit is provided with cubic spline, 4 Parameter Logistics or Logit-Log.

For the calculation of the standard curve, apply each signal of the standards (one obvious outlier of duplicates could be omitted and the more plausible single value used).

The concentration of the samples can be read directly from the standard curve.

Saliva samples with remarkably elevated values should be reviewed for blood contamination.

Conversion:

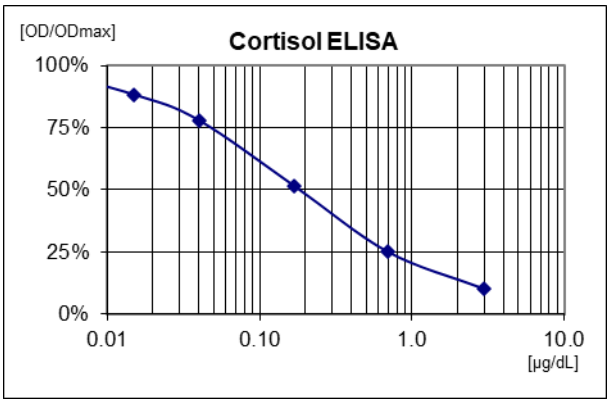
Cortisol (ng/mL) x 2.76 = nmol/L

Cortisol (µg/dL) x 27.6 = nmol/L

Typical Calibration Curve

(Example. Do not use for calculation!)

Standard	Cortisol	OD_{Mean}	OD/OD_{max}
A	0.00 µg/dL	1.946	100 %
B	0.015 µg/dL	1.719	88 %
C	0.04 µg/dL	1.519	78 %
D	0.17 µg/dL	1.003	51 %
E	0.70 µg/dL	0.488	25 %
F	3.00 µg/dL	0.198	10 %



Measuring Range: 0.005 µg/dL (LoQ as functional sensitivity) to 2.208 µg/dL (highest concentration tested in linearity studies).

16. EXPECTED VALUES

The results themselves should not be the only reason for any therapeutic consequences. They have to be correlated to other clinical observations and diagnostic tests.

The cortisol profile should be established individually and not only draw a conclusion on a single sample as a point for reaching a diagnosis [10, 11].

The references in the literature for morning cortisol are in a range of 1.6 - 21.3 nmol/L [11] (0.06 - 0.77 µg/dL), while an expected drop is seen in the late evening/midnight to 0.1 [11] - 2.6 [10] nmol/L (0.004 - 0.09 µg/dL).

Apparently healthy subjects show the following values:

♂/♀ n = 100 Age > 6 years	**Cortisol (Saliva) Range**					
Time after awakening	**Median**	**Range percentile**		**Median**	**Range percentile**	
		5 %	**95 %**		**5 %**	**95 %**
awakening	0.343 µg/dL	0.113 µg/dL	0.803 µg/dL	9.47 nmol/L	3.12 nmol/L	22.17 nmol/L
0.5 hour	0.478 µg/dL	0.200 µg/dL	1.076 µg/dL	13.19 nmol/L	5.52 nmol/L	29.70 nmol/L
1 hour	0.384 µg/dL	0.101 µg/dL	0.936 µg/dL	10.60 nmol/L	2.79 nmol/L	25.82 nmol/L
2 hours	0.234 µg/dL	0.083 µg/dL	0.574 µg/dL	6.44 nmol/L	2.29 nmol/L	15.85 nmol/L
5 hours	0.150 µg/dL	0.074 µg/dL	0.355 µg/dL	4.14 nmol/L	2.04 nmol/L	9.79 nmol/L
8 hours	0.116 µg/dL	0.055 µg/dL	0.314 µg/dL	3.20 nmol/L	1.53 nmol/L	8.67 nmol/L
12 hours	0.082 µg/dL	0.032 µg/dL	0.322 µg/dL	2.26 nmol/L	0.87 nmol/L	8.89 nmol/L

♂/♀ n = 112 Age: 18 - 70 years	**Cortisol (Saliva) Range**							
	Median	**Range percentile**		**Max**	**Median**	**Range percentile**		**Max**
		5 %	**95 %**			**5 %**	**95 %**	
midnight value	0.021 µg/dL	0.006 µg/dL	0.108 µg/dL	0.274 µg/dL	0.58 nmol/L	0.17 nmol/L	2.98 nmol/L	7.56 nmol/L

Individuals with hypercortisolism demonstrate a morning cortisol of 23[3] - 55.2[12;13] nmol/L (0.83 - 2.00 µg/dL), which is about 2 times higher than found in healthy individuals. Most clinically significant is the LNSC with 15.2[14] - 73.07[13] nmol/L (0.55 - 2.64 µg/dL), 28 fold the normal value.

To test for hypocortisolism e.g. Addison's disease the measurement of morning salivary cortisol values is suitable. The cortisol level is 4.14 nmol/L (0.15 µg/dL) compared to control values 18.48 nmol/L (0.67 µg/dL)[15].

It is recommended that each laboratory establishes its own range of normal values.

17. LIMITATIONS OF THE PROCEDURE

Children levels have not yet been evaluated with this test.

Specimen collection and storage have a significant effect on the test results. See SPECIMEN COLLECTION AND STORAGE for details. For cross-reactivities, see PERFORMANCE.

	Substance	Concentration
The following substances do not have a significant effect (+/- 20 % of expected value) on the test results up to the stated concentrations	Thimerosal	0.0001 %
	Blood	0.001 %
	Sodium azide	0.1 %
	Citric acid	1.0 %

Note: Even smallest amounts of thimerosal have significant influence on sample finding. Therefore the use of Thimerosal as a sample preservative should be avoided in any case.

18. PERFORMANCE

18.1. Analytical Specificity (Cross Reactivity)

The cross-reactivity of the cortisol antiserum has been measured against various compounds. The percent of cross-reactivity is expressed as the ratios of cortisol concentration to the concentration of the reacting compound at 50 % binding of the zero standard. The results are shown in the following table.

Substance	Cross Reactivity
Prednisolone	16.64 %
11-Deoxycortisol	8.53 %
Cortisone	2.55 %
17 α-Hydroxyprogesterone	1.29 %
Prednisone	1.23 %
Corticosterone	0.99 %
6β-Hydroxycortisol	0.80 %
Desoxycorticosterone	0.38 %
Progesterone	0.10 %
6α-Methyl-17α-Hydroxyprogesterone	0.10 %
17 α- Hydroxypregnenolone	0.08 %
Pregnenolone	0.07 %
Dehydroisoandrosterone	≤ 0.01 %
Dexamethasone	≤ 0.01 %

Substance	Cross Reactivity
Androstenedione	≤ 0.01 %
Estrone	≤ 0.01 %
Estriol	≤ 0.01 %
Medroxyprogesterone 17-acetate	≤ 0.01 %
Testosterone	≤ 0.01 %
Androsterone	≤ 0.01 %
Dihydrotestosterone	≤ 0.01 %
Methyltestosterone	≤ 0.01 %
19-Norethisterone	≤ 0.01 %
Ethinylestradiol	≤ 0.01 %
Epiestriol	≤ 0.01 %
4,5α-Dihydrotestosterone	≤ 0.01 %
β-Estradiol	≤ 0.01 %

18.2. Limit of Blank (LoB)

The LoB study was performed with the zero calibrator (Standard A), measured in 20 replicates in one run. Limit of Blank = 0.003 µg/dL

18.3. Limit of Quantitation (LoQ) as Functional Sensitivity

The LoQ study was performed with 4 different saliva samples, measured in 10 replicates in one run. Limit of Quantitation as functional sensitivity = 0.005 µg/dL (with an precision of 20 %)

18.4. Metrological traceability

Values assigned to Standards and Controls are traceable to reference method LC-MS/MS with a mean uncertainty of 5.5 %. The calculated maximum uncertainty of Cortisol Saliva ELISA (RE52611) at a concentration of 0.5 µg/dL is 14.9 %.

18.5. Linearity

The linearity study was performed by measuring four different samples with different concentrations: 0.507 - 2.208 µg/dL and serially diluted in Standard A. The assay showed a linear behavior up to 1:32. The mean linearity recovery was 92.8 %.

18.6. Recovery

The recovery study was performed by measuring four saliva samples with increasing amounts of cortisol were added. The mean recovery was 105.3 % (range 98.0 - 117.9 %).

18.7. Method Comparison

Method comparison versus LCMS

A comparison to LCMS reference method was performed by using three independent laboratories.
The method comparison resulted in a correlation of r = 0.996 with 58 saliva samples measured.

Method comparison versus other assay

Method comparison with IBL Cortisol LUM RE62111 resulted in a correlation of r = 0.9994 with 48 saliva samples measured.

Method comparison versus commercial ELISA

The Comparison to commercial ELISA resulted in a correlation of r = 0.998 with 58 saliva samples measured.

18.8. Precision

The intra-assay study was conducted by performing 3 different saliva samples in one run. Each sample was tested 20 times.

Intra-Assay			
Sample (n = 20)	**Concentration$_{mean}$**	**SD**	**CV**
1	0.066 µg/dL	0.004 µg/dL	6.1 %
2	0.290 µg/dL	0.009 µg/dL	3.2 %
3	1.091 µg/dL	0.039 µg/dL	3.6 %

The intra-assay precision showed a mean CV of 4.3 % and a range of 3.2 % - 6.1 %

The Inter- Assay Precision was conducted by performing five different saliva samples on ten days, investigated by three different operators. All samples were measured in duplicates.

Inter-Assay			
Sample (n = 20)	**Concentration$_{mean}$**	**SD**	**CV**
1	0.055 µg/dL	0.011 µg/dL	19.5 %
2	0.116 µg/dL	0.012 µg/dL	10.1 %
3	0.269 µg/dL	0.027 µg/dL	10.1 %
4	0.485 µg/dL	0.061 µg/dL	12.5 %
5	1.092 µg/dL	0.148 µg/dL	13.5 %

The Inter- Assay Precision showed a mean CV from 13.2 % and a range between 10.1 % and 19.5 %.

The Inter lot study was conducted by performing five different saliva samples with three different kit lots by three different investigators.

Inter-Lot			
Sample (n = 20)	**Concentration$_{mean}$**	**SD**	**CV**
1	0.035 µg/dL	0.006 µg/dL	17.0 %
2	0.106 µg/dL	0.015 µg/dL	14.5 %
3	0.152 µg/dL	0.023 µg/dL	15.4 %
4	0.542 µg/dL	0.038 µg/dL	7.0 %
5	2.288 µg/dL	0.097 µg/dL	4.2 %

The Inter-Lot Precision showed a mean CV from 11.6 % and a range between 4.2 % und 17.0 %

19. PRODUCT LITERATURE REFERENCES

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Symbols / Symbole / Symboles / Símbolos / Simboli / Símbolos / Σύμβολα

REF	Cat.-No.: / Kat.-Nr.: / No.- Cat.: / Cat.-No.: / N.–Cat.: / N.º Cat.: / Αριθμός-Κατ.:
LOT	Lot-No.: / Chargen-Bez.: / No. Lot: / Lot-No.: / Lotto n.: / Lote N.º: / Αριθμός -Παραγωγή:
	Use by: / Verwendbar bis: / Utiliser à: / Usado por: / Da utilizzare entro:/ Usar até: / Χρησιμοποιείται από:
Σ	No. of Tests: / Kitgröße: / Nb. de Tests: / No. de Determ.: / Quantità dei tests: / N.º de Testes: / Αριθμός εξετάσεων:
CONC	Concentrate / Konzentrat / Concentré / Concentrar / Concentrato / Concentrado / Συμπύκνωμα
LYO	Lyophilized / Lyophilisat / Lyophilisé / Liofilizado / Liofilizzato / Liofilizado / Λυοφιλιασμένο
IVD	In Vitro Diagnostic Medical Device / In-vitro-Diagnostikum / Appareil Médical pour Diagnostics In Vitro / Dispositivo Médico para Diagnóstico In Vitro / Dispositivo Medico Diagnostico In vitro / Equipamento Médico de Diagnóstico In Vitro / Ιατρική συσκευή για In-Vitro Διάγνωση
BIO	Contains biological material of human origin / Enthält biologisches Material menschlichen Ursprungs / Contient une substance biologique d'origine humaine / Contiene material biológico de origen humano / Contiene materiale biologico di origine umana / Contém material biológico de origem humana / Περιέχει βιολογικό υλικό ανθρώπινης προέλευσης
BIO	Contains biological material of animal origin / Enthält biologisches Material tierischen Ursprungs / Contient une substance biologique d'origine animale / Contiene material biológico de origen animal / Contiene materiale biologico di origine animale / Contém material biológico de origem animal / Περιέχει βιολογικό υλικό ζωικής προέλευσης
UDI	Unique Device Identification / Eindeutige Gerätekennung / Identifiant de dispositif unique / Identificación única de producto / Identificatore univoco del dispositivo / Identificador de dispositivo único / Μοναδικός αναγνωριστικός κωδικός προϊόντος
	Read instructions before use / Arbeitsanleitung lesen / Lire la fiche technique avant emploi / Lea las instrucciones antes de usar / Leggere le istruzioni prima dell'uso / Ler as instruções antes de usar / Διαβάστε τις οδηγίες πριν την χρήση
	Keep away from heat or direct sun light / Vor Hitze und direkter Sonneneinstrahlung schützen / Garder à l'abri de la chaleur et de toute exposition lumineuse / Manténgase alejado del calor o la luz solar directa / Non esporre ai raggi solari / Manter longe do calor ou luz solar directa / Να φυλάσσεται μακριά από θερμότητα και άμεση επαφή με το φως του ηλίου
	Store at: / Lagern bei: / Stocker à: / Almacene a: / Armazenar a: / Conservare a: / Armazenar em: / Αποθήκευση στους:
2-8°C	Store at: 2 - 8°C / Lagern bei: 2 - 8°C / Stocker à: 2 - 8°C / Almacene a: 2 - 8°C / Armazenar a: 2 - 8°C / Conservare a: 2-8°C / Armazenar em: 2-8°C / Αποθήκευση στους: 2-8°C
	Manufacturer: / Hersteller: / Fabricant: / Productor: / Fabricante: / Fabbricante: / Παραγωγός:
	Distributor: / Distributor: / Distributeur: / Distributor: / Distributore: / Distribuidor: / Διανομέας:
	Caution! / Vorsicht! / Attention! / ¡Precaución! / Attenzione! / Cuidado! / Προσοχή!
	Symbols of the kit components see MATERIALS SUPPLIED. Die Symbole der Komponenten sind im Kapitel KOMPONENTEN DES KITS beschrieben. Voir MATERIEL FOURNI pour les symbôles des composants du kit. Símbolos de los componentes del juego de reactivos, vea MATERIALES SUMINISTRADOS. Per i simboli dei componenti del kit si veda COMPONENTI DEL KIT. Para símbolos dos componentes do kit ver MATERIAIS FORNECIDOS. Για τα σύμβολα των συστατικών του κιτ συμβουλευτείτε το ΠΑΡΕΧΟΜΕΝΑ ΥΛΙΚΑ.

Generic table, not all symbols are present in the product

COMPLAINTS: Complaints may be submitted initially written or vocal. Subsequently they need to be filed including the test performance and results in writing in case of analytical reasons.

WARRANTY: The product is warranted to be free from material defects within the specific shelf life and to comply with product specifications delivered with the product. The product must be used according to the Intended use, all instructions given in the instructions for use and within the product specific shelf life. Any modification of the test procedure or exchange or mixing of components of different lots could negatively affect the results. These cases invalidate any claim for replacement.

LIMITATION OF LIABILITY: IN ALL CIRCUMSTANCES THE EXTENT OF MANUFACTURER'S LIABILITY IS LIMITED TO THE PURCHASE PRICE OF THE KIT(S) IN QUESTION. IN NO EVENT SHALL MANUFACTURER BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING DAMAGES FOR LOST PROFITS, LOST SALES, INJURY TO PERSON OR PROPERTY OR ANY OTHER INCIDENTAL OR CONSEQUENTIAL LOSS.

The labelling of hazardous substances is according to European directive.
For further country-specific classifications, please refer to the corresponding safety data sheet.

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