

Ref 3515





Product Ref.	3515
Product Desc.	DGP-Check
Manual Rev. No.	002 : 2013-10-10

# **Instruction Manual**

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## 1 Intended Use

**AESKULISA DGP-Check** is a solid phase enzyme immunoassay employing synthetic, deamidated gliadin-derived peptides for the combined quantitative and qualitative detection of IgA and IgG antibodies against deamidated Gliadin-specific peptides (DGP) in human serum.

The assay is a tool in the diagnosis of celiac disease (gluten-sensitive enteropathy).

## 2 Clinical Application and Principle of the Assay

Gluten-sensitive enteropathy or celiac disease is characterized by atrophy of the small intestinal villi leading to a so-called flat mucosa. It is caused by a pathological intolerance to Gliadin, the alcohol-soluble fraction of gluten in wheat, rye and barley. As celiac disease is caused by the uptake of gluten, consequently a gluten-free diet cures the disease completely and thus has to be maintained for life-time. Renewed consumption of Gliadin leads to a return of the symptoms. The disease is HLA-associated (>95% of patients have DQ2 enREFd by DQA1\*0501 and DQB1\*0201) and manifests at any age with a peak onset in early childhood, even in neonatals. The incidence rates range from 1 in 4000 to 1 in 300 in european countries.

Diagnosis of celiac disease is made by small intestinal biopsy (demonstrating the flat mucosa) supported by serological markers. Antibodies against Gliadin and tissue Transglutaminase (tTG) are of major significance. tTG has been identified as the major target antigen of EMA, antibodies binding to endomysium (extracellular constituent of smooth muscle) in indirect immunofluorescence test (IFT), which has been so far an important tool for the diagnosis of celiac diseases.

Circulating IgG and IgA antibodies to Gliadin are found in the serum of most but not all celiac disease patients, though the specificity of these antibodies are significantly lower compared to tTG and EMA.

Recent work has revealed that gliadin reactive antibodies from celiac patients bind a very limited number of specific epitopes on the gliadin molecule.7,8 The selective deamidation of gliadin by tissue transglutaminase results in enhanced binding by anti-gliadin antibodies. Assays using deamidated and defined peptides have been shown to have higher diagnostic accuracy for celiac disease when compared to standard anti-gliadin assays.9, 10, 11

The determination of IgG antibodies to Gliadin (and/or tTG) is expecially of high value as approximately 2% - 5% of celiac patients display an IgA deficiency, thus being missed by IgA subclass tests.

Moreover, antibodies to Gliadin and DGP may be the only serological marker in neonatals, as anti-tTG and EMA autoantibodies are not present at this age.

#### Principle of the test

Serum samples diluted 1:101 are incubated in the microplates coated with the specific antigen. Patient's antibodies, if present in the specimen, bind to the antigen. The unbound fraction is washed off in the following step. Afterwards anti-human immunoglobulins conjugated to horseradish peroxidase (conjugate) are incubated and react with the antigen-antibody complex of the samples in the microplates. Unbound conjugate is washed off in the following step. Addition of TMB-substrate generates an enzymatic colorimetric (blue) reaction, which is stopped by diluted acid (color changes to yellow). The intensity of color formation from the chromogen is a function of the amount of conjugate bound to the antigen-antibody complex and this is proportional to the initial concentration of the respective antibodies in the patient sample.



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## 3 Kit Contents

TO BE RECONSTITUTED					
Item	Quantity	Cap color	Solution color	Description / Contents	
Sample Buffer (5x)	1 x 20ml	White	Yellow	5 x concentrated Tris, sodium chloride (NaCl), bovine serum albumin (BSA), sodium azide < 0.1% (preservative)	
Wash Buffer (50x)	1 x 20ml	White	Green	50 x concentrated Tris, NaCl, Tween 20, sodium azide < 0.1% (preservative)	
		RE	ADY TO USE	E	
Item	Quantity	Cap color	Solution color	Description / Contents	
Negative Control	1 x 1.5ml	Green	Colorless	Human serum (diluted), bovine serum albumin (BSA), sodium azide < 0.1% (preservative)	
Positive Control	1 x 1.5ml	Red	Yellow	Human serum (diluted), bovine serum albumin (BSA), sodium azide < 0.1% (preservative)	
Cut-off Calibrator	1 x 1.5ml	Blue	Yellow	Human serum (diluted), bovine serum albumin (BSA), sodium azide < 0.1% (preservative)	
Calibrators	6 x 1.5ml	White	Yellow *	Concentration of each calibrator: 0, 3, 10, 30, 100, 300 U/ml. Human serum (diluted), bovine serum albumin (BSA), sodium azide < 0.1% (preservative)	
Conjugate, IgA/G	1 x 15ml	White	Red	Containing: Anti-human immunoglobulins conjugated to horseradish peroxidase, bovine serum albumin (BSA)	
TMB Substrate	1 x 15ml	Black	Colorless	Stabilized tetramethylbenzidine and hydrogen peroxide (TMB/H $_2O_2$ )	
Stop Solution	1 x 15ml	White	Colorless	1M Hydrochloric Acid	
Microtiter plate	12 x 8 well strips	N/A	N/A	With breakaway microwells. Refer to paragraph 1 for coating.	

#### MATERIALS REQUIRED, BUT NOT PROVIDED

Microtiter plate reader 450 nm reading filter and recommended 620 nm reference filter (600-690 nm). Glass ware (cylinder 100-1000ml), test tubes for dilutions. Vortex mixer, precision pipettes (10, 100, 200, 500, 1000  $\mu$ l) or adjustable multipipette (100-1000 $\mu$ l). Microplate washing device (300  $\mu$ l repeating or multichannel pipette or automated system), adsorbent paper. Our tests are designed to be used with purified water according to the definition of the United States Pharmacopeia (USP 26 - NF 21) and the European Pharmacopeia (Eur.Ph. 4th ed.).

## 4 Storage and Shelf Life

Store all reagents and the microplate at 2-8°C/35-46°F, in their original containers. Once prepared, reconstituted solutions are stable at 2-8°C/35-46°F for at least 1 month. Reagents and the microplate shall be used within the expiry date indicated on each component, only. Avoid intense exposure of TMB solution to light. Store microplates in designated foil, including the desiccant, and seal tightly.

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## 5 Precautions of Use

## 5.1 Health hazard data

**THIS PRODUCT IS FOR IN VITRO DIAGNOSTIC USE ONLY**. Thus, only staff trained and specially advised in methods of in vitro diagnostics may perform the kit. Although this product is not considered particularly toxic or dangerous in conditions of the intended use, refer to the following for maximum safety:

#### Recommendations and precautions

This kit contains potentially hazardous components. Though kit reagents are not classified being irritant to eyes and skin we recommend to avoid contact with eyes and skin and wear disposable gloves.

WARNING ! Calibrators, Controls and Buffers contain sodium azide  $(NaN_3)$  as a preservative.  $NaN_3$  may be toxic if ingested or adsorbed by skin or eyes.  $NaN_3$  may react with lead and copper plumbing to form highly explosive metal azides. On disposal, flush with a large volume of water to prevent azide build-up. Please refer to decontamination procedures as outlined by CDC or other local/national guidelines.

#### Do not smoke, eat or drink when manipulating the kit. Do not pipette by mouth.

All human source material used for some reagents of this kit (controls, standards e.g.) has been tested by approved methods and found negative for HbsAg, Hepatitis C and HIV 1. However, no test can guarantee the absence of viral agents in such material completely. Thus handle kit controls, standards and patient samples as if capable of transmitting infectious diseases and according to national requirements.

The kit contains material of animal origin as stated in the table of contents, handle according to national requirements.

## 5.2 General directions for use

In case that the product information, including the labeling, is defective or incorrect please contact the manufacturer or the supplier of the test kit.

Do not mix or substitute reagents or microplates from different lot numbers. This may lead to variations in the results.

Allow all components to reach room temperature (20-32°C/68-89.6°F) before use, mix well and follow the recommended incubation scheme for an optimum performance of the test.

#### Incubation: We recommend test performance at 30°C/86°F for automated systems.

Never expose components to higher temperature than 37°C/ 98.6°F.

Always pipette substrate solution with brand new tips only. Protect this reagent from light. Never pipette conjugate with tips used with other reagents prior.

A definite clinical diagnosis should not be based on the results of the performed test only, but should be made by the physician after all clinical and laboratory findings have been evaluated. The diagnosis is to be verified using different diagnostic methods.



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## 6 Sample Collection, Handling and Storage

Use preferentially freshly collected serum samples. Blood withdrawal must follow national requirements. Do not use icteric, lipemic, hemolysed or bacterially contaminated samples. Sera with particles should be cleared by low speed centrifugation (<1000 x g). Blood samples should be collected in clean, dry and empty tubes.

After separation, the serum samples should be used during the first 8h, respectively stored tightly closed at 2-8°C/35-46°F up to 48h, or frozen at -20°C/-4°F for longer periods

## 7 Assay Procedure

## 7.1 Preparations prior to starting

Dilute concentrated reagents:

Dilute the concentrated sample buffer 1:5 with distilled water (e.g. 20 ml plus 80 ml).

Dilute the concentrated wash buffer 1:50 with distilled water (e.g. 20 ml plus 980 ml).

To avoid mistakes we suggest to mark the cap of the different calibrators.

#### Samples:

Dilute serum samples 1:101 with sample buffer (1x)

e.g. 1000 µl sample buffer (1x) + 10 µl serum. Mix well !

#### Washing:

Prepare 20 ml of diluted wash buffer (1x) per 8 wells or 200 ml for 96 wells

e.g. 4 ml concentrate plus 196 ml distilled water.

#### Automated washing:

Consider excess volumes required for setting up the instrument and dead volume of robot pipette.

#### Manual washing:

Discard liquid from wells by inverting the plate. Knock the microwell frame with wells downside vigorously on clean adsorbent paper. Pipette 300  $\mu$ l of diluted wash buffer into each well, wait for 20 seconds. Repeat the whole procedure twice again.

#### Microplates:

Calculate the number of wells required for the test. Remove unused wells from the frame, replace and store in the provided plastic bag, together with desiccant, seal tightly (2-8°C/35-46°F).

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## 7.2 Pipetting Scheme

We suggest pipetting calibrators, controls and samples as follows:

For QUANTITATIVE interpretation						
1 2 3 4						
Α	Cal A	Cal E	P1			
В	Cal A	Cal E	P1			
С	Cal B	Cal F	P2			
D	Cal B	Cal F	P2			
Е	Cal C	PC	P3			
F	Cal C	PC	P3			
G	Cal D	NC				
н	Cal D	NC				

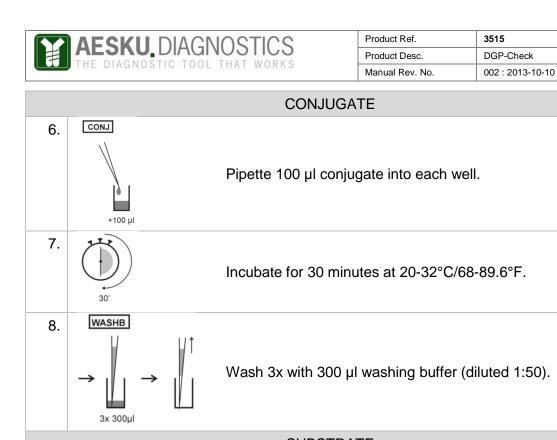
/	1	2	3	4
Α	NC	P2		
В	NC	P2		
С	CC	P3		
D	CC	P3		
Е	PC			
F	PC			
G	P1			
н	P1			

CalA: calibrator A	CaID: calibrator D	PC: positive control	P1: patient 1
CalB: calibrator B	CalE: calibrator E	NC: negative control	P2: patient 2
CalC: calibrator C	CalF: calibrator F	CC: cut-off calibrator	P3: patient 3

## 7.3 Test Steps

Step	Description		
1.	Ensure preparations from step 7.1 above have been carried out prior to pipetting.		
2.	Use the following steps in accordance with quantitative/ qualitative interpretation results desired:		
	CONTROLS & SAMPLES		
3.	<ul> <li>Pipette into the designated wells as described in chapter 7.2 above, 100 µl of either:         <ul> <li>a. Calibrators (CAL.A to CAL.F) for QUANTITATIVE or</li> <li>b. Cut-off Calibrator (CC) for QUALITATIVE interp.</li> <li>and 100 µl of each of the following:                 <ul> <li>Negative control (NC) and Positive control (PC), and</li> <li>Patients diluted serum (P1, P2)</li> </ul> </li> <ul> <li>Patients diluted serum (P1, P2)</li> </ul> <li>Additional control (PC)</li> <li>Additional control (P1, P2)</li> </ul> <li>Additional control (PC)</li> <li>Patients diluted serum (P1, P2)</li> </li></ul> <ul> <li>Patients diluted serum (P1, P2)</li> </ul> <li>Additional control (PC)</li> <li>Patients diluted serum (P1, P2)</li>		
4.	Incubate for 30 minutes at 20-32°C/68-89.6°F.		
5.	WASHE $\rightarrow$ $\downarrow$ $\downarrow$ $\downarrow$ $\downarrow$ $\downarrow$ $\downarrow$ $\downarrow$ Wash 3x with 300 µl washing buffer (diluted 1:50).		

## For QUALITATIVE interpretation



SUB

+100 µ

STOP

450/620 nm

9.

10.

11.

SUBSTRATE

Pipette 100 µl TMB substrate into each well.

Incubate for 30 minutes at 20-32°C/68-89.6°F, protected from intense light.

# STOP

Pipette 100 µl stop solution into each well, using the same order as pipetting the substrate.

	+100 µl	
12.	5'	Incubate 5 minutes minimum.
13.		Agitate plate carefully for 5 sec.
14.	$OD_{450} OD_{620}$	Read absorbance at 450 nm (recommended 450/620 nm) within 30 minutes.



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## 8 Quantitative and Qualitative Interpretation

For **quantitative interpretation** establish the standard curve by plotting the **optical density** (**OD**) of each calibrator (y-axis) with respect to the corresponding concentration values in U/ml (x-axis). For best results we recommend log/lin coordinates and 4-Parameter Fit. From the OD of each sample, read the corresponding antibody concentrations expressed in U/ml.

Normal Range	Equivocal Range	Positive Results
< 16 U/ml	16 - 24 U/ml	>24 U/ml

#### Example of a standard curve

#### Do NOT use this example for interpreting patient's result

• • • • • • • • • • • • • • • • • • • •	s even he con he can g have a coorder						
Calibrators IgA/G	OD 450/620 nm	CV % (Variation)					
0 U/ml	0.053	0.3					
3 U/ml	0.176	1.4					
10 U/ml	0.350	2.3					
30 U/ml	0.622	3.9					
100 U/ml	1.203	1.9					
300 U/ml	2.000	6.6					

#### Example of calculation

Patient	Replicate (OD)	Mean (OD)	Result (U/ml)
P 01	0.925/0.985	0.955	50.5
P 02	0.491/0.489	0.490	20.1

Samples above the highest calibrator range should be reported as >Max. They should be diluted as appropriate and re-assayed. Samples below calibrator range should be reported as < Min.

For lot specific data, see enclosed quality control leaflet. Medical laboratories might perform an in-house quality control by using own controls and/or internal pooled sera, as foreseen by national regulations.

Each laboratory should establish its own normal range based upon its own techniques, controls, equipment and patient population according to their own established procedures.

In case that the values of the controls do not meet the criteria the test is invalid and has to be repeated.

The following technical issues should be verified: Expiration dates of (prepared) reagents, storage conditions, pipettes, devices, photometer, incubation conditions and washing methods.

If the items tested show aberrant values or any kind of deviation or that the validation criteria are not met without explicable cause please contact the manufacturer or the supplier of the test kit.

For **qualitative interpretation** read the optical density of the cut-off calibrator and the patient samples. Compare patient's OD with the OD of the cut-off calibrator. For qualitative interpretation we recommend to consider sera within a range of 20% around the cut-off value as equivocal. All samples with higher ODs are considered positive, samples with lower ODs are considered negative.

Negative:		OD patient	<	0.8 x OD cut-off		
Equivocal:	0.8 x	OD cut-off	≤	OD patient	≤	1.2 x OD cut-off
Positive:		OD patient	>	1.2 x OD cut-off		



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9	Technical Data	
	Sample material:	serum
	Sample volume:	10 $\mu$ l of sample diluted 1:101 with 1x sample buffer
	Total incubation time:	90 minutes at 20-32°C/68-89.6°F
	Calibration range:	0-300 U/ml
	Analytical sensitivity:	1.44 U/ml
	Reportable range:	1.84 – 300 U/ml
	Storage:	at 2-8°C/35-46°F use original vials only.
	Number of determinations:	96 tests

## **10** Performance Data

#### 10.1 Analytical sensitivity

Testing sample buffer 60 times on AESKULISA DGP-Check gave a limit of blank of 0.202 U/ml and 8 low negative samples for 8 times gave a limit of detection of 1.44 U/ml.

## **10.2 Method Comparison**

The microplates are coated with synthetic, deamidated gliadin-derived peptides. No cross reactivity with other autoantibodies have been found.

A total of 216 adult and pediatric samples (for composition see table) have been tested on the AESKULISA DGP-Check and a predicate device reacting in the reportable range. Results are summarized in the following table (samples out of reportable range were excluded from the comparison but were included in the clinical validation below):

DGP-Check	AESKULISA	Predicate	
Diagnosis	POS (>24)	POS	Total
CD	59 (96.7%)	54 (88.5%)	61
CD IgA Def	14 (93.3%)	15 (100%)	15
CD suspect	25 (67.6%)	33 (89.2%)	37
CD suspect IgA Def	1 (50%)	0 (0%)	2
DH	27 (81.8%)	31 (93.9%)	33
non-DH/CD controls	3 (5.4%)	2 (3.6%)	56
diluted serum	1 (8.3%)	8 (66.7%)	12
Total	130 (60.2%)	143 (66.2%)	216

DGP-Check		predicate		
DGP-0	Sneck	POS (>20)	Neg (≤20)	Total
D	Pos (>24)	122	8	130
AESKU	Neg (≤24)	21	65	86
A	Total	143	73	216



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Positive agreement	95%	6 C.I.
85.31% (122/143)	78.59%	90.19%
Negative agreement		
89.04% (65/73)	79.84%	94.34%
Overall Agreement		
86.57% ((122+65)/216)	81.38%	90.49%

(\*) Agreements were calculated regarding equivocal results as negative and low positive results as positive.

Of the 22 samples (disregarding 7 discrepant diluted samples) with discrepant results the AESKULISA outperformed the predicate device in 7 cases based on additional information such as EMA, biopsy and results from DGP assays of other immunoglobulin classes.

## **10.3 Clinical Evaluation**

The diagnostic sensitivity of 94.4% and diagnostic specificity of 97.7% was calculated using 289 samples: The above CD and DH, non-DH/CD and autoimmune controls samples ignoring the results for the suspected, diluted and IgA deficient samples (for composition see table below).

DGP-Check	AESKU	
Disease Group	POS (>24)	Total
Autoimmune Controls*	0(0%)	73
CD	77(97.5%)	79
CD IgA Def	15(93.8%)	16
DH	59(90.8%)	65
Controls (non-DH/CD)	3(5.4%)	56
Total	154(53.3%)	289

(\*) contains additional samples only determined on the AESKULISA and not determined on the predicate device and samples which showed high positivity out of measurable range.

DGP-Check		Diagnosis	
Test	POS	NEG	Total
POS>24	151	3	154
NEG ≤24	9	126	135
Total	160	129	289

Diagnostic Sensitivity*	95% C	.I.
94.38% (151/160)	89.66%	97.01%
Diagnostic Specificity*		
97.67% (126/129)	93.39%	99.21%

\*equivocal results were regarded as negative

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## 10.4 Linearity

Chosen sera have been tested with this kit and found to dilute linearly with a negative serum according to CLSI EP06-A. However, due to the heterogeneous nature of human autoantibodies there might be samples that do not follow this rule.

Comp	osition		High			Medium			Low	
Pos. sample	Neg. sample	Mean [U/ml]	Expected [U/ml]	Recovery [%]	Mean [U/ml]	Expected [U/ml]	Recovery [%]	Mean [U/ml]	Expected [U/ml]	Recovery [%]
100.0%	0.0%	392.5	392.5	100.0%	156.5	156.5	100.0%	14.8	14.8	100.0%
87.5%	12.5%	326.5	343.4	95.1%	131.1	136.9	95.8%	11.2	12.9	86.9%
75.0%	25.0%	287.3	294.4	97.6%	120.4	117.3	102.6%	10.5	11.1	94.6%
67.5%	32.5%	241.0	264.9	90.9%	88.3	105.6	83.6%	7.6	10.0	75.9%
50.0%	50.0%	199.8	196.3	101.8%	78.1	78.2	99.8%	6.5	7.4	88.6%
37.5%	62.5%	159.8	147.2	108.6%	58.5	58.7	99.7%	4.5	5.5	82.0%
25.0%	75.0%	79.2	98.1	80.7%	36.5	39.1	93.3%	3.5	3.7	94.4%
12.5%	87.5%	26.9	49.1	54.8%	11.2	19.6	57.0%	1.2	1.8	62.4%

Taken this data, the linear range for AESKULISA DGP-Check is from 1.84 U/ml to 300 U/ml.

## 10.5 Precision

To determine the precision of the assay, the variability (intra, inter-assay and Lot-to-Lot) was assessed by examining its reproducibility on five serum samples selected to represent a range over the standard curve, in 8 repetitions in 5 runs. Lot-to-Lot variability was assessed measuring five serum samples in 8 repetitions on 3 different lots.

Inter-a	assay vari	ability	Intra-a	issay vari	ability	Lot-to-Lot variability			
Sample No.	Mean (U/ml)	CV (%)	Sample No.	Mean (U/ml)	CV (%)	Sample No.	Mean (U/ml)	CV (%)	
1	11.5	12.2	1	11.53	10.8	1	10.4	12.4	
2	18.9	12.2	2	18.88	10.3	2	20.3	10.6	
3	28.8	13.0	3	28.83	12.5	3	30.3	11.0	
4	64.0	12.0	4	63.98	8.2	4	62.1	8.1	
5	128.0	14.4	5	128.01	7.1	5	127.0	8.1	

Acceptance criteria are ≤15% for positive samples, ≤15% for equivocal samples and ≤25% for negative samples

## 10.6 Calibration

Due to the lack of international reference calibration this assay is calibrated in arbitrary units (U/mI).

## 10.7 Normal Range

DGP-A antibodies are reported in up to 10% and DGP-G antibodies in up to 13.7% of the normal population.

133 random blood donors were tested for DGP-Check antibodies. Of these; 116 ranged in the age of 16-45 and 17 were 46+; they included a similar number of males and females. One sample (0.8%) was positive, six (4.5%) were equivocal, with the highest sample at 28.4 units, the rest were negative. The mean value of the samples was 8.2 units with a standard deviation of 4.4 units. The mean value is 3.6 standard deviations below the 24-unit limit of positivity.



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## 11 Literature

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"Conservar entre 2-8°C         "Prodotto da       "Manufactured by         "Fabriqué par       "Fabricado por         "Hergestellt von       "Kατασκευάζεται από         "Fabricado por       "Calibrator cut-off         "Conservar entre 2-8°C       "Calibrator cut-off         "Conservar entre 2-8°C       "Manufactured by         "Fabricado por       "Kατασκευάζεται από         "Fabricado por       "Cut off Calibrator         "Calibrator cut-off       "Cut off Calibrator de cut-off         "Grenzwert Kalibrator       "Oρικκός ορός Αντιδραστήριο βαθμονόμησης         "Calibrador de cut-off       "Controllo positivo         "Controllo positivo       "Positive Control         "Controllo positivo       "Positivo         "Positiv Kontrolle       "Θετικός ορός ελέγχου	<b>D</b> ~+8°C	" Conserver à 2-8°C	
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Prodotto da       " Manufactured by         Fabriqué par       " Fabricado por         "Hergestellt von       " Κατασκευάζεται από         " Fabricado por       "         CO-CALL       " Calibratore cut-off       " Cut off Calibrator         " Calibratore cut-off       " Calibrador de cut-off         " Calibrator       " Oparado go pós Αντιδραστήριο βαθμονόμησης         " Controllo positivo       " Positive Control         " Controllo positivo       " Control Positivo         " Positiv Kontrolle       " Θετικός ορός ελέγχου	•		
····································			" Manufactured by
Ηergestellt von         Κατασκευάζεται από           Fabricado por         Κατασκευάζεται από           CO-CAL         Calibratore cut-off         Calibrator de cut-off           Calibrator Education         Calibrator de cut-off         Calibrador de cut-off           Calibrator         Controllo positivo         Positive Control           Controlle Positif         Controlle         Controlle           Positiv Kontrolle         Θετικός ορός ελέγχου			
"Fabricado por         CO-CAL         "Calibratore cut-off         "Etalon Seuil         "Genzwert Kalibrator         "Controllo positivo         "Controllo Positif         "Controlle Positivo         "Positiv Kontrolle         "Oprikkóς opóς ελέγχου			
CO-CAL <sup>°</sup> Calibrator cut-off <sup>°</sup> Cut off Calibrator          Etaion Seuil <sup>°</sup> Calibrador de cut-off <sup>°</sup> Calibrator de cut-off <sup>°</sup> Calibrador de cut-off <sup>°</sup> Calibrador de cut-off <sup>°</sup> Calibrator de cut-off <sup>°</sup> Controllo positivo <sup>°</sup> Control Positive Control <sup>°</sup> Control Positiv <sup>°</sup> Positiv Kontrolle <sup>°</sup> Θετικός ορός ελέγχου <sup>°</sup> Control positivo <sup>°</sup>			κατασκευαζεται απο
CO-CAL         "Etaion Seuil         "Calibrador de cut-off           "Grenzwert Kalibrator         "Oριακός ορός Αντιδραστήριο βαθμονόμησης           "Calibrador de cut-off         "Calibrador de cut-off           "Controllo positivo         "Positive Control           "Controlle Positif         "Control Positivo           "Positiv Kontrolle         "Θετικός ορός ελέγχου		Fabricado por	
"Calibrador de cut-off     "Positive Control       CONTrollo positivo     "Positive Control       "Contrôle Positif     "Control Positivo       "Positiv Kontrolle     "Θετικός ορός ελέγχου       "Control positivo     "Οιτικός ορός ελέγχου		" Calibratore cut-off	" Cut off Calibrator
"Calibrador de cut-off     "Positive Control       CONTrollo positivo     "Positive Control       "Contrôle Positif     "Control Positivo       "Positiv Kontrolle     "Θετικός ορός ελέγχου       "Control positivo     "Οιτικός ορός ελέγχου		" Etalon Seuil	" Calibrador de cut-off
"Calibrador de cut-off     "Positive Control       CONTrollo positivo     "Positive Control       "Contrôle Positif     "Control Positivo       "Positiv Kontrolle     "Θετικός ορός ελέγχου       "Control positivo     "Οιτικός ορός ελέγχου		" Grenzwert Kalibrator	¨Οριακός ορός Αντιδραστήριο βαθμονόμησης
CONF         Controllo positivo         Positive Control           "Contrôle Positif         "Control Positivo           "Positiv Kontrolle         "Θετικός ορός ελέγχου           "Control positivo         "Οετικός ορός ελέγχου		" Calibrador de cut-off	
CON + <sup>°</sup> Contrôle Positif <sup>°</sup> Control Positivo <sup>°</sup> Θετικός ορός ελέγχου <sup>°</sup> Controlo positivo <sup>°</sup> Οοττοιο positivo <sup>°</sup>			" Positive Control
CON +         ¨ Positiv Kontrolle         ¨ Θετικός ορός ελέγχου           ¨ Controlo positivo         ¨			
" Controlo positivo	CON +		
			Οετικός όρος ελεγχού
"Controllo negativo "Negative Control		-	
CONI – Contrôle Négatif Control Negativo	CON  -		
COIN     "Negativ Kontrolle     "Αρνητικός ορός ελέγχου		-	¨ Αρνητικός ορός ελέγχου
" Controlo negativo		" Controlo negativo	
Calibratore Calibrator		" Calibratore	" Calibrator
CAL Etalon Calibrador		" Etalon	" Calibrador
CAL     ¨Etalon     ¨Calibrador       ¨Kalibrator     ¨Αντιδραστήριο βαθμονόμησης			
Calibrador			
Construction     "Recovery     "Recovery			" Recovery
Corrélation         "Recuperado           "Wiederfindung         "Ανάκτηση			
NO     "Wiederfindung     "Ανάκτηση		-	Ανακιηση
"Recuperação			<u></u>
"Conjugate "Conjugate		6	
CONUL Conjugé Conjugado			
CONJ     "Conjugé     "Conjugado       "Konjugat     Σύζευγμα		" Konjugat	¨ Σύζευγμα
"Conjugado		" Conjugado	
<sup>°</sup> Microjastra rivestita <sup>°</sup> Coated microtiter plate			" Coated microtiter plate
		•	
MP <sup>°</sup> Microplaque sensibilisée <sup>°</sup> Microplaca sensibilizada <sup>°</sup> Beschichtete Mikrotiterplatte <sup>°</sup> Επικαλυμμένη μικροπλάκα			
Constructive Mikroliterplatte			
INICIDUALA LEVENIDA		•	"Mark hoffer
"Tampone di lavaggio "Wash buffer	INVASHR150~11		
"Tampone di lavaggio "Wash buffer		•	¨Ρυθμιστικό διάλυμα πλύσης
Tampone di lavaggio         "Wash buffer           Tampon de Lavage         "Solución de lavado           WASHB 50x         "Waschpuffer		" Solucão de lavagem	
Tampone di lavaggio         "Wash buffer           Tampon de Lavage         "Solución de lavado           WASHB 50x         "Waschpuffer		" Tampone substrato	" Substrate buffer
* Tampone di lavaggio       * Wash buffer         * Tampone di lavaggio       * Solución de lavado         * Tampon de Lavage       * Solución de lavado         * Waschpuffer       * Pυθμιστικό διάλυμα πλύσης         * Solucão de lavagem       * Solucão de lavagem		" Substrat	<sup>°°</sup> Tampón sustrato
* Tampone di lavaggio       * Wash buffer         * Tampon de Lavage       * Solución de lavado         * Waschpuffer       * Pυθμιστικό διάλυμα πλύσης         * Solucão de lavagem       * Substrate buffer		" Substratpuffer	΄ Ρυθμιστικό διάλυμα υποστρώματος
* Tampone di lavaggio       * Wash buffer         * Tampone di lavaggio       * Solución de lavado         * Tampon de Lavage       * Solución de lavado         * Waschpuffer       * Puθμιστικό διάλυμα πλύσης         * Solucão de lavagem       * Substrate buffer		•	
* Tampone di lavaggio       * Wash buffer         * Tampone di lavaggio       * Solución de lavado         * Tampon de Lavage       * Solución de lavado         * Waschpuffer       * Puθμιστικό διάλυμα πλύσης         * Solucão de lavagem       *         * Substrate buffer       * Substrate buffer         * Substrat       * Tampón substrato         * Substrat       * Tampón sutstrato         * Substratpuffer       * Ρυθμιστικό διάλυμα υποστρώματος			" Stop solution
· Tampone di lavaggio         · Wash buffer           · Tampone di lavaggio         · Wash buffer           · Tampon de Lavage         · Solución de lavado           · Waschpuffer         · Puθμιστικό διάλυμα πλύσης           · Solucão de lavagem         · Substrate buffer           · Substrat         · Tampón substrato           · Substrat         · Tampón sutstrato           · Substrato         · Substrato		-	
* Tampone di lavaggio       * Wash buffer         * Tampon de Lavage       * Solución de lavado         * Waschpuffer       * Puθμιστικό διάλυμα πλύσης         * Solucão de lavagem       * Solucăo de lavagem         * Tampone substrato       * Substrate buffer         * Substrat       * Tampón sustrato         * Substrat       * Tampón sutstrato         * Substrat       * Tampón sutstrato         * Substrat       * Tampón sutstrato         * Substrato       * Substrato         * Substrato       * Substrato         * Reagente bloccante       * Stop solution			
* Tampone di lavaggio       * Wash buffer         * Tampon de Lavage       * Solución de lavado         * Waschpuffer       * Puθμιστικό διάλυμα πλύσης         * Solución de lavagem       * Solución de lavagem         * Substrate       * Substrate buffer         * Substrat       * Tampon substrato         * Substrate/Uffer       * Puθμιστικό διάλυμα υποστρώματος         * Substrate/Uffer       * Puθμιστικό διάλυμα υποστρώματος         * Substrato       *         * Solución de parada       *			Αντιοραστηριο οιακοπής αντιόρασης
* Tampone di lavaggio       * Wash buffer         * Tampon de Lavage       * Solución de lavado         * Waschpuffer       * Puθμιστικό διάλυμα πλύσης         * Solucão de lavagem       *         * Substrate       * Substrate buffer         * Substrato       * Substrate buffer         * Substrato       * Tampón sustrato         * Substrato       * Tampón sustrato         * Substrato       * Duβμιστικό διάλυμα υποστρώματος         * Substrato       *         * Solución de parada       *         * Solución d'Arrêt       *         * Stopreagenz       *	STOP		
* Tampone di lavaggio       * Wash buffer         * Tampon de Lavage       * Solución de lavado         * Tampon de Lavage       * Solución de lavado         * Washpuffer       * Puθμιστικό διάλυμα πλύσης         * Solucão de lavagem       *         * Tampone substrato       * Substrate buffer         * Substrat       * Tampón sustrato         * Substrato       * Tampón sustrato         * Substrato       * Duθμιστικό διάλυμα υποστρώματος         * Substrato       *         * Solución de parada       *         * Solución de parada       *         * Stopreagenz       *         * Solucão de paragem       *	STOP	" Tampone campione	" Sample buffer
* Tampone di lavaggio       * Wash buffer         * Tampon de Lavage       * Solución de lavado         * Tampon de Lavage       * Solución de lavado         * Waschpuffer       * Puθμιστικό διάλυμα πλύσης         * Solucião de lavagem       *         * Substrate buffer       * Substrate buffer         * Substrato       * Tampone substrato         * Substrato       * Tampón sustrato         * Substrato       * Duθμιστικό διάλυμα υποστρώματος         * Substrato       *         * Solución d'Arrêt       *         * Solución de parada       *         * Stopreagenz       *         * Solucão de paragem       *	STOP		
* Tampone di lavaggio       * Wash buffer         * Tampon de Lavage       * Solución de lavado         * Tampon de Lavage       * Solución de lavado         * Waschpuffer       * Puθμιστικό διάλυμα πλύσης         * Solucião de lavagem       *         * Solucião de lavagem       *         * Substrate       * Substrate buffer         * Substrato       * Substrate buffer         * Substrato       * Duβμιστικό διάλυμα υποστρώματος         * Substrato       *         * Substrato       *         * Substrato       *         * Substrato       *         * Reagente bloccante       * Stop solution         * Solucião de paragem       *         * Solucão de paragem       *         * Tampone campione       * Sample buffer	STOP	" Tampon Echantillons	" Tampón Muestras
* Tampone di lavaggio       * Wash buffer         * Tampon de Lavage       * Solución de lavado         * Tampon de Lavage       * Solución de lavado         * Waschpuffer       * Puθμιστικό διάλυμα πλύσης         * Solución de lavagem       *         * Solución de lavagem       *         * Substrate buffer       * Substrate buffer         * Substrato       * Tampón sustrato         * Substrate formation       * Substrate buffer         * Substrato       * Puθμιστικό διάλυμα υποστρώματος         * Substrato       *         * Solución d'Arrét       * Solución de parada         * Stopreagenz       * Avriδραστήριο διακοπής αντίδρασης         * Solución de paragem       *         * Tampone campione       * Sample buffer	STOP SB 5x		
* Tampone di lavaggio       * Wash buffer         * Tampon de Lavage       * Solución de lavado         * Tampon de Lavage       * Solución de lavado         * Waschpuffer       * Puθμιστικό διάλυμα πλύσης         * Solucião de lavagem       *         * Solucião de lavagem       *         * Substrate       * Substrate buffer         * Substrato       * Substrate buffer         * Substrato       * Duβμιστικό διάλυμα υποστρώματος         * Substrato       *         * Substrato       *         * Substrato       *         * Substrato       *         * Reagente bloccante       * Stop solution         * Solucião de paragem       *         * Solucão de paragem       *         * Tampone campione       * Sample buffer	STOP SB 5x	" Probenpuffer	