VIDAS® HBe/Anti-HBe (HBE/HBET)

IVD

VIDAS HBe/Anti-HBe is an automated qualitative test for use on the VIDAS family instruments, for the detection of the hepatitis B e-antigen (HBe Ag) or antibodies (anti-HBe) in human serum or plasma (lithium heparin, sodium citrate or EDTA) using the ELFA technique (Enzyme Linked Fluorescent Assay).

SUMMARY AND EXPLANATION

Approximately 5% of the world population is infected by the hepatitis B virus (HBV) which causes a necroinflammatory liver disease of variable duration and severity. Chronically infected patients with active liver disease carry a high risk of developing cirrhosis or hepatocellular carcinoma. The immune response to HBV-encoded antigens is responsible both for viral clearance and for disease pathogenesis during this infection. Hepatitis B can be transmitted through sexual contact, exposure to blood products, or perinatally.

Perinatal transmission can be as high as 90% in women who are chronically infected with HBV, in highly endemic areas or in regions with no systematic testing of pregnant women. The child becomes a chronic carrier of HBs antigen in 90% of cases (1).

The C gene of the HBV viral genome can express two distinct proteins: 1) core protein (HBc Ag) which forms the nucleocapsid, 2) e non-particulate protein (HBe Ag). HBe Ag can be detected in the serum of patients with hepatitis B wild-type virus during active viral replication (2). The function of this antigen in the viral replication cycle is not clearly defined. It is not indispensable to the virus, however this antigen is a major immunological target in the clearance of the virus.

Generally, HBe Ag can be detected early in an acute HBV infection. It coincides with or follows the appearance of HBs Ag. In acute cases which evolve to recovery, HBe Ag disappears after several weeks and seroconversion to anti-HBe usually follows. For chronic HBV cases, HBe Ag can persist from several months to as long as several years, indicating on-going viral replication (2). The presence of HBe Ag in serum indicates active replication of HBV and people with HBe Ag-positive results are considered highly infectious for hepatitis B (3).

HBe Ag is used to monitor chronic hepatitis and anti-viral therapy. The objective of anti-viral therapy is to prevent the progression to liver cirrhosis. HBe Ag seroconversion to anti-HBe is generally considered as an indicator of transition to a state of viral latency accompanied by normalization of aminotransferase levels. HBe Ag seroconversion to Anti-HBe reduces the risk of developing cirrhosis and decompensated liver disease (4).

A positive result for anti-HBe in patients recovering from acute hepatitis indicates normal recovery, particularly if HBsAg and HBe Ag are no longer detectable. In an HBV carrier, a positive anti-HBe result usually indicates inactivity of the virus and low infectivity of the patient (5). However a positive anti-HBe result in the presence of a positive HBV-DNA test result can indicate active viral replication and progression of liver disease in a carrier (5).

HBV mutants, unable to secrete HBe Ag, can prevail over wild-type HBVs in patients with severe acute and chronic hepatitis B and in chronic HBs Ag carriers at the time of HBe Ag/anti-HBe seroconversion (6).

The VIDAS HBe/anti-HBe assay aids in detecting the presence of HBe antigen or anti-HBe antibody which are respectively, except for infections by mutant HBe viruses, markers for a viral replication phase or an evolution towards normalization.

PRINCIPLE

HBe Ag

The principle of the assay combines an enzyme immunoassay method with a final fluorescent detection (ELFA).

The Solid Phase Receptacle (SPR®), serves as the solid phase as well as the pipetting device. The reagents for the assay, with the exception of the standard and controls, are ready-to-use and pre-dispensed in the sealed reagent strips.

All of the assay steps are performed automatically by the instrument. The reaction medium is cycled in and out of the SPR several times.

After dilution in the instrument, the sample is cycled in and out of the SPR. During this time, the HBe antigen, if present in the sample, will bind simultaneously to the specific monoclonal antibody fixed to the SPR and to another monoclonal specific antibody conjugated with biotin. Unbound components are removed by washing steps. The presence of biotin is detected by incubation with streptavidin conjugated with alkaline phosphatase. Successive washes remove unbound components. During the final detection step, the substrate (4-Methyl-umbelliferyl phosphate) is cycled in and out of the SPR. The conjugate enzyme catalyzes the hydrolysis of this substrate into a fluorescent product (4-Methyl-umbelliferone), the fluorescence of which is measured at 450 nm. The intensity of the fluorescence is proportional to the concentration of antigen present in the sample. At the end of the assay, results are automatically calculated by the instrument and then printed out.

anti-HBe antibodies

The test for anti-HBe uses the same protocol outlined above with the exception of a pre-assay sample incubation with added recombinant HBeAg. During this incubation, the recombinant HBe Ag is neutralized by antibodies of the sample, if present. The HBe Ag assay is then performed, to detect the residual free HBe Ag. The presence of antibodies in the sample will decrease the signal. If anti-HBe is not present in the sample, the added recombinant HBe Ag will be completely detected. The specific interpretation of the results for anti-HBe will be done automatically by the instrument, and then printed out.

CONTENT OF THE KIT (30 TESTS) – RECONSTITUTION OF REAGENTS:

30 HBE strips	STR	Ready-to-use.
30 HBE SPRs 1 x 30	SPR®	Ready-to-use. Interior of SPRs coated with mouse monoclonal anti-HBe Ab.
HBe Ag positive control 1 x 1.5 ml (liquid)	C1	Ready-to-use. Stable protein base overloaded with recombinant HBe Ag + 0.9 g/l sodium azide. MLE data indicate the index: confidence interval ("Control C1 (+)Test Value Range").
Negative control 1 x 1.9 mL (liquid)	C2	Ready-to-use negative control for both the HBe Ag and Anti-HBe assays. Phosphate buffer + protein stabilizer of animal origin + preservatives.
Anti-HBe positive control 1 x 1.5 ml (liquid)	C3	Ready-to-use. Stable protein base overloaded with mouse monoclonal anti-HBe Ab + 0.9 g/l sodium azide. MLE data indicate the index: confidence interval ("Control C3 (+)Test Value Range").
HBe Ag standard 4 x 1 ml (lyophilized)	S1	Stable protein base overloaded with recombinant HBe Ag + protein stabilizers. Dilute the contents of a vial with 1 ml of standard diluent to reconstitute the standard. Store at 2-8°C after reconstitution for up to 6 months.
Anti-HBe standard 1 x 2 ml (liquid)	S2	Ready-to-use. Delipidated human serum* + 0.9 g/l sodium azide.
S1 Standard diluent 1 x 5 ml (liquid)	R1	Ready-to-use. Contains 0.9 g/l sodium azide
Specifications for the factory master data required to calibrate the test: • MLE data (Master Lot Entry) provided in the kit, or • MLE bar code printed on the box label.		
1 Package insert provided in the kit or downloadable from www.biomerieux.com/techlib		

* This product has been tested and shown to be negative for HBs antigen, antibodies to HIV1, HIV2 and HCV. However, since no existing test method can totally guarantee their absence, this product must be treated as potentially infectious. Therefore, usual safety procedures should be observed when handling.

The SPR

The interior of the SPR is coated during production with monoclonal anti-HBe antibody. Each SPR is identified by the HBE code. Only remove the required number of SPRs from the pouch and **carefully reseal the pouch after opening.**

The strip

The strip consists of 10 wells covered with a labeled, foil seal. The label comprises a bar code which mainly indicates the assay code, kit lot number and expiration date. The foil of the first well is perforated to facilitate the introduction of the sample. The first well in the strip is for the sample. The last well of each strip is a cuvette in which the fluorometric reading is performed. The wells in the center section of the strip contain the various reagents required for the assay.

Description of the HBe/Anti-HBe strip

Wells	Reagents
1	Sample well
2	Conjugate: biotin labeled monoclonal anti-HBe Ab (mouse) + 0.9 g/l sodium azide (300 µl).
3 - 4 - 6 - 7 - 8 - 9	Wash buffer: Buffered saline (0.05 mol/l) (pH 7.8) with 0.9 g/l sodium azide (600 µl).
5	Tracer: Alkaline Phosphatase-labeled streptavidin + 0.9 g/l sodium azide (400 µl).
10	Optical Cuvette with Substrate: 4-Methyl-umbelliferyl phosphate (0.6 mmol/l) + diethanolamine DEA* (0.62 mol/l or 6.6 %) pH 9.2 + 1 g/l sodium azide (300 µl).

* Signal Word: **DANGER**

Hazard statement

H318 : Causes serious eye damage.

Precautionary statement

P280 :Wear protective gloves/protective clothing/eye protection/face protection.
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

For further information, refer to the Material Safety Data Sheet

MATERIALS AND DISPOSABLES REQUIRED BUT NOT PROVIDED

- Pipette with disposable tip to dispense 100µl, 150µl, 1 ml.
- Powderless, disposable gloves.
- For other specific materials and disposables, please refer to the Instrument User's Manual.
- VIDAS family instrument.

WARNINGS AND PRECAUTIONS

- **For *in vitro* diagnostic use only.**
- **For professional use only.**
- **This kit contains products of human origin. No known analysis method can totally guarantee the absence of transmissible pathogenic agents. It is therefore recommended that these products be treated as potentially infectious, and handled observing the usual safety precautions (see Laboratory biosafety manual - WHO - Geneva - latest edition).**
- This kit contains products of animal origin. Certified knowledge of the origin and/or sanitary state of the animals does not totally guarantee the absence of transmissible pathogenic agents. It is therefore recommended that these products be treated as potentially infectious and handled observing the usual safety precautions (do not ingest or inhale).
- Do not use SPRs if the pouch is pierced.
- Do not use visibly deteriorated strips (damaged foil or plastic).
- Do not use reagents after the expiration date indicated on the label.
- Do not mix reagents (or disposables) from different lots.
- Use **powderless gloves** as powder has been reported to cause false results for certain enzyme immunoassay tests.
- Kit reagents contain sodium azide which can react with lead or copper plumbing to form explosive metal azides. If any liquid containing sodium azide is disposed of in the plumbing system, drains should be flushed with water to avoid build-up.
- The substrate in well 10 contains an irritant agent (6.6% diethanolamine). Refer to the hazard statements "H" and the precautionary statements "P" above.
- Spills should be wiped up thoroughly after treatment with liquid detergent or a solution of household bleach containing at least 0.5% sodium hypochlorite. See the User's Manual for cleaning spills on or in the instrument. Do not autoclave solutions containing bleach.
- The instrument should be regularly cleaned and decontaminated (see the User's Manual).

STORAGE CONDITIONS

- Store the VIDAS HBe/Anti-HBe kit at 2-8°C .
- **Do not freeze reagents.**
- **Store all unused reagents at 2-8°C, including S1 standard after reconstitution.**
- After opening the kit, check that the SPR pouch is correctly sealed and undamaged. If not, do not use the SPRs.
- **Carefully reseal the pouch with the desiccant inside after use to maintain the stability of the SPRs and return the complete kit to 2-8°C.**
- If stored according to the recommended conditions, all components are stable until the expiration date indicated on the label.

SPECIMENS

Specimen type and collection

Serum or plasma with lithium heparin, sodium citrate or EDTA.
It is recommended that each laboratory checks the compatibility of collection tubes used.
The use of heat inactivated sera has not been validated for this test. Do not heat samples.
None of the following factors have been found to significantly influence this assay:

- hemolysis (after spiking samples with hemoglobin, from 0 to 5.6 mg/ml (monomer)),
- lipemia (after spiking samples with lipids, from 0 to 10 mg/ml equivalent in triglycerides),
- bilirubinemia (after spiking samples with bilirubin, from 0 to 490 µmol/l).

However, it is recommended not to use samples that are hemolyzed or lipemic and, if possible, to collect a new sample.

Specimen stability

Samples can be stored at 2-8°C in stoppered tubes for up to 1 week. If longer storage is required, freeze the sera or plasma at -25 ± 6°C.
Avoid successive freezing and thawing.
A study performed on frozen samples over a period of 2 months, showed that the quality of results is not affected.

INSTRUCTIONS FOR USE

For complete instructions, see the User's Manual.

Reading Master lot data

Before each new lot of reagents is used, enter the specifications (or factory master data) into the instrument using the master lot entry (MLE) data.

If this operation is not performed **before initiating the tests**, the instrument will not be able to print results.

Note: the master lot data need only be entered once for each lot.

It is possible to enter MLE data **manually or automatically** depending on the instrument (refer to the User's Manual).

Calibration

Calibration, using the standards provided in the kit, must be performed each time a new lot of reagents is opened, after the master lot data have been entered. Calibration should then be performed every 14 days. This operation provides instrument-specific calibration data and compensates for possible minor variations in assay signal throughout the shelf-life of the kit.
The standards, identified by S1 (Ag HBe) and S2 (Anti-HBe) must be tested in duplicate (see User's Manual). The standard value must be within the set RFV ("Relative Fluorescence Value") and the coefficient of variation of the standard run in duplicate must be less than the normal value indicated on the MLE card. If this is not the case, recalibrate.

HBe assay procedure

1. **Only remove the required reagents from the refrigerator and allow to come to room temperature for 30 minutes before use.**
2. Remove one "HBE" strip and one "HBE" SPR for each sample, control or standard to be tested. **Make sure the storage pouch has been carefully resealed after the required SPRs have been removed.**
3. The test is identified by the "HBE" code on the instrument. The calibrator, which must be identified by "S1", should be tested **in duplicate** and be placed at the beginning of the run. If the positive control is to be tested, it should be identified by "C1". If the negative control needs to be tested, it should be identified by "C2".
4. Mix the standard, control and samples using a vortex type mixer (for serum or plasma separated from the pellet).
5. **For this test, the standard, control, and sample test portion is 150 µl.**
6. Insert the "HBE" SPRs and the "HBE" Reagent Strips into the instrument. Check to make sure the color labels with the assay code on the SPRs and the Reagent strips match.
7. Initiate the assay as directed in the User's Manual. All the assay steps are performed automatically by the instrument.
8. Restopper the vials and return them to 2–8°C after pipetting.
9. The assay will be completed within approximately 90 minutes. After the assay is completed, remove the SPRs and the strips from the instrument.
10. Dispose of the used SPRs and strips into an appropriate recipient.

RESULTS AND INTERPRETATION OF HBe TEST

Once the assay is completed, results are analyzed automatically by the computer. Fluorescence is measured twice in the Reagent strip's reading cuvette for each test. The first reading is a background reading of the substrate cuvette before the SPR is introduced into the substrate. The second reading is taken after incubating the substrate with the enzyme remaining on the interior of the SPR. The RFV (Relative Fluorescence Value) is calculated by subtracting the background reading from the final result. This calculation appears on the result sheet.

The index value is calculated by dividing the sample or control RFV by the standard RFV:

i = index = sample RFV / S1 standard RFV

This index and its interpretation appear on the result sheet:

Index	Interpretation
i < 0.1	Negative: absence of HBe Ag
i ≥ 0.1	Positive: presence of HBe Ag

Interpretation of test results should be made taking into consideration the patient's history, and the results of any other tests performed.
As no international standard is available for the determination of HBe Ag, the VIDAS reagent is calibrated against collection sera.

Anti-HBe assay procedure

Note: The VIDAS Anti-HBe assay begins with a preliminary incubation step which can be performed in a water bath, dry incubator, or directly in the instrument.

Caution: Each time a new vial of S1 is reconstituted for the HBET test, this operation must be validated by testing the C2 and C3 controls.

Preliminary incubation

1. Mix the S1 and S2 standards, the C2 and C3 controls and the samples using a vortex type mixer.
2. For each sample standard (S2) and control to be tested: pipette 100 µl of HBe (S1) standard into a glass or plastic tube or into the sample well of the VIDAS "HBE" strip. Add 100 µl of sample, standard (S2) or control. Cover and mix the tubes using a vortex type mixer or mix by pipetting several times in the sample well.
   Incubate at 37 ± 2°C for 1 hour ± 5 minutes in a water bath, dry incubator if tubes are used, or in the instrument if preliminary incubation is performed in the strips.

Testing with the instrument

3. Remove the required reagents from the refrigerator 30 minutes before the end of preliminary incubation to allow them to come to room temperature.
4. The test is identified by the "HBET" code on the instrument. The standard, must be identified by "S2", and tested **in duplicate**. If the positive control is to be tested, it should be identified by "C3". If the negative control needs to be tested, it should be identified by "C2".
5. a) If preliminary incubation is not performed in the strip, pipette 150 µl of the mixture (prepared during preliminary incubation) into the sample well of the "HBE" strip (NB: samples and controls will be tested singly and the standard in duplicate).

Insert the strips and the SPRs into the instrument.

5. b) **If preliminary incubation has been performed in the instrument, remember to insert the SPRs.**
6. Check to make sure the color labels with the assay code on the "HBE" SPRs and the "HBE" Reagent strips match.
7. Initiate the assay as directed in the User's Manual. All the assay steps are performed automatically by the instrument.
8. Restopper the vials and return them to 2–8°C after pipetting.
9. The assay will be completed within approx. 90 minutes. After the analysis is completed, remove the SPRs and the strips from the instrument.
10. Dispose of the used SPRs and strips into an appropriate recipient.

Anti-HBe RESULTS AND INTERPRETATION

Once the assay is completed, results are analyzed automatically by the computer. Fluorescence is measured twice in the strip's cuvette for each test. The first reading is a background reading of the substrate cuvette before the SPR is introduced into the substrate. The second reading is taken after incubating the substrate with the enzyme remaining on the interior of the SPR. The RFV (Relative Fluorescence Value) is calculated by subtracting the background reading from the final result. This calculation appears on the result sheet.
The index value is calculated by dividing the sample or control RFV by the standard RFV:
i = index = sample RFV / standard S2 RFV
This index and its interpretation appear on the result sheet: Interpretation of results according to the index is as follows:

Index	Interpretation
i < 0.4	Positive: presence of anti-HBe
0.4 ≤ i < 0.5	Equivocal
I ≥ 0.5	Negative: absence of anti-HBe

Interpretation of test results should be made taking into consideration the patient's history, and the results of any other tests performed.
As no international standard is available for the determination of anti-HBe Ab, the VIDAS reagent is calibrated against collection sera.

QUALITY CONTROL

One positive Ag HBe control (C1) and one positive Anti-HBe control (C3) are included in each VIDAS HBe/Anti-HBe kit as well as one negative HBe/Anti-HBe control (C2) which can be used for both tests.
These controls must be performed immediately after opening a new kit to ensure that reagent performance has not been altered. Each calibration must also be checked using these controls. Results cannot be validated if any of the control values deviate from the expected values.

Caution: any reconstitution of a new S1 vial used for the anti-HBe test must be validated using C2 and C3 controls.

Note

It is the responsibility of the user to perform Quality Control in accordance with any local applicable regulations.

LIMITATIONS OF THE METHOD

Interference may be encountered with certain sera containing antibodies directed against reagent components. For this reason, assay results should be interpreted taking into consideration the patient's history, and the results of any other tests performed.

HBe PERFORMANCE

Precision

Intra-assay, intra-instrument reproducibility

Five samples were tested singly in 12 runs on the same instrument over a 7-week period (calibration was performed every 14 days as described in the User's Manual).

Sample	Mean index	% CV
1	0.01	20.4
2	0.01	15
3	0.22	5.1
4	0.80	4.2
5	2.12	5.5

Inter-assay reproducibility (inter-instrument)

A panel of 3 samples was tested singly in 3 runs at 4 different sites.

Sample	Mean index	% CV
Negative	0.00	-
Weak positive	0.29	12.5
Strong positive	1.61	8.6

Analytical sensitivity

The sensitivity, determined using the PEI standard, was estimated at 0.25 PEI U/ml.

Sensitivity - Specificity

1) Random population

413 samples from blood donors were tested in parallel using VIDAS and an enzyme immunoassay technique (EIA).

		EIA	
		positive	negative
VIDAS HBe Ag	positive	0	0
	negative	3*	410

* These samples were found to be negative with a second EIA technique used to resolve discrepant results. These samples were also found to be negative for HBV-DNA.

Relative specificity after confirmation: 100%
(95% Confidence interval: 99.04% - 100%).

2) Routine diagnostic population

368 samples were tested at two different clinical sites using VIDAS HBe and an enzyme immunoassay technique. Five discrepant results (negative with VIDAS / positive with EIA) were analyzed using a second EIA technique and HBV-DNA detection. The final results are as follows:

		Final interpretation	
		positive	negative
VIDAS Ag HBe	positive	204	0
	negative	4	160

Relative sensitivity after confirmation: 98.1%

(95% Confidence interval: 95.1% - 99.3%).
Relative specificity after confirmation: 100%
(95% Confidence interval: 97.6% - 100%).

3) Study of 203 clinically negative samples

203 samples were tested using VIDAS HBe and an enzyme immunoassay technique.
Discrepant results were resolved using another EIA technique.

		Final interpretation	
		positive	negative
VIDAS Ag HBe	positive	1	1
	negative	0	201

Relative specificity after confirmation: 99.5%
(95% Confidence interval: 97.2% - 99.9%).

CROSS REACTIVITY AND RELEVANT INTERFERENTS

69 potentially interfering samples were tested.

	VIDAS	EIA 1
	negative	negative
Antinuclear antibodies	9	9
Anti-EBV antibodies	3	3
Anti-HCV antibodies	18	18
Anti-HAV IgM	6	6
Rheumatoid factor	33	33

Anti-HBe PERFORMANCE DATA

Precision

Precision was evaluated using the positive control and the negative control tested in duplicate twice a day for eight days at three sites.

Sample	negative control C2	Positive control C3
Mean index	0.99	0.20
Intra-assay reproducibility	3.4%	6.6%
Inter-assay reproducibility	10.8%	8.2%

Analytical sensitivity

The sensitivity, determined using the PEI standard, was estimated at 0.03 PEI U/ml.

Sensitivity - Specificity

1) Routine diagnostic population

900 acute hepatitis, chronic hepatitis, and potentially interfering samples were tested at two different sites. The VIDAS results were compared to a commercially available EIA for anti-HBe. Equivocal samples were not included in the assay performance calculation. Discordant results were resolved with a second commercially available EIA for anti-HBe and taking into account the patient's history.

		Confirmed results	
		positive	négative
VIDAS Anti-HBe	positive	292	3
	negative	4	581

Relative sensitivity after confirmation 98.65%
(95% Confidence interval: 96,52% - 99.48%)
Relative specificity after confirmation: 99.49%
(95% Confidence interval: 98,47%-99.83%)

2) Study of 210 blood donor samples

210 samples were tested using VIDAS anti-HBe and an enzyme immunoassay technique.
Discrepant results were resolved using another EIA technique.

		positive	negative
VIDAS Anti- HBe	positive	0	1
	negative	0	209

Relative specificity after confirmation: 99.5%
(95% Confidence interval: 97.3% - 99.9%).

CROSS REACTIVITY AND RELEVANT INTERFERENTS

58 potentially interfering samples were tested.

	VIDAS	EIA
	negative	negative
Anti-HBs antibodies	10	10
Antinuclear antibodies	10	10
Anti-HCV antibodies	8	8
Anti-HAV IgM	9	9
Rheumatoid factor	11	11
Anti-EBV antibodies	10	10

EXPECTED VALUES

The incidence of hepatitis B cases in Europe is approximately 20/100,000, ranging from 1/100,000 in Scandinavian countries to 60/100,000 in Central Europe. In Europe, the endemia increases North to South and West to East. In South-East Asia, in China, in Sub-Saharan Africa or in South America the prevalence can exceed 10%.

The HBe antigen only exists in HBs Ag positive subjects, its presence is an unfavorable prognosis element as it is the marker of an active viral multiplication.

The anti-HBe antibody is a favorable prognosis element, especially if it appears early on.

WASTE DISPOSAL

Dispose of used or unused reagents as well as any other contaminated disposable materials following procedures for infectious or potentially infectious products.
It is the responsibility of each laboratory to handle waste and effluents produced according to their nature and degree of hazardousness and to treat and dispose of them (or have them treated and disposed of) in accordance with any applicable regulations.

LITERATURE REFERENCES

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INDEX OF SYMBOLS

Symbol	Meaning
REF	Catalogue number
IVD	*In Vitro* Diagnostic Medical Device
	Manufacturer
	Temperature limit
	Use by
LOT	Batch code
	Consult Instructions for Use
	Contains sufficient for <n> tests
	Date of manufacture

WARRANTY

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REVISION HISTORY

Change type categories :

N/A	Not applicable (First publication)
Correction	Correction of documentation anomalies
Technical change	Addition, revision and/or removal of information related to the product
Administrative	Implementation of non-technical changes noticeable to the user

Note: *Minor typographical, grammar, and formatting changes are not included in the revision history.*

Release date	Part Number	Change Type	Change Summary
2015/06	09078K	Technical	CONTENT OF THE KIT (30 TESTS) – RECONSTITUTION OF REAGENTS INSTRUCTIONS FOR USE
2016/04	09078L	Technical	CONTENT OF THE KIT (30 TESTS) – RECONSTITUTION OF REAGENTS

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