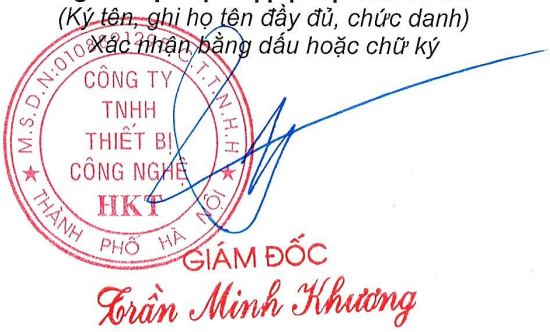
Hướng dẫn sử dụng bản gốc

Tài liệu được cung cấp bằng tiếng Anh

Tài liệu được xác nhận bằng chữ ký số

Tp Hà Nội ngày 18 tháng 04 năm 2022

Người đại diện hợp pháp của cơ sở
(Ký tên, ghi họ tên đầy đủ, chức danh)
Xác nhận bằng dấu hoặc chữ ký



REF **C88009M** **2×50 Tests** CE

INTENDED USE

The iFlash-EB EA IgM assay is a paramagnetic particle chemiluminescent immunoassay (CLIA) for the qualitative determination of IgM antibody to Epstein-Barr virus (EBV) in human serum and plasma using the iFlash Immunoassay Analyzer.

SUMMARY AND EXPLANATION

The Epstein-Barr virus (EBV), also called human herpesvirus 4 (HHV-4), is one of eight known viruses in the herpes family, and is one of the most common viruses in humans. EBV infects B cells of the immune system and epithelial cells. Infection with EBV occurs by the oral transfer of saliva and genital secretions. Once EBV's initial lytic infection is brought under control, EBV latency persists in the individual's B cells for the rest of the individual's life.

The strongest evidence linking EBV and cancer formation is found in Burkitt's lymphoma and nasopharyngeal carcinoma. Additionally, it has been postulated to be a trigger for a subset of chronic fatigue syndrome patients as well as multiple sclerosis and other autoimmune diseases.

The determination of EB EA IgM is utilized in the diagnosis of EBV infection and as an aid in the diagnosis of related disease.

ASSAY PRINCIPLE

The iFlash-EB EA IgM assay is an indirect immunoassay.

- 1st incubation: Anti-EB EA IgM in the sample and EB EA antigen-coated paramagnetic microparticles react to form a complex.
- Wash: The unbound materials are washed away from the solid phase in a magnetic field.
- 2nd incubation: Acridinium-ester-labeled anti-human IgM conjugate is added to form a reaction mixture.
- Another wash.
- Trigger of signal: The Pre-Trigger and Trigger Solutions are added to the reaction mixture. The resulting chemiluminescent reaction is measured as relative light units (RLUs).
- A direct relationship exists between the amount of anti-EB EA IgM in the sample and the RLUs detected by the iFlash optical system.
- Results are determined by comparing the RLUs of each sample to the cutoff signal obtained from a previous calibration.

REAGENTS

Reagent kit, 100 tests, 2 packs, 50 tests/pack

R1	EB EA antigen-coated paramagnetic microparticles, 3.5 mL/pack, 0.05% ProClin 300.
R2	Acridinium-ester-labeled anti-human IgM conjugate, 6.5 mL/pack, 0.05% ProClin 300.
R3	Sample diluent, phosphate buffer, 6.5 mL/pack, Goat Anti-human IgG, 0.05% ProClin 300.
CAL1	Calibrator 1, 1 bottle, 1.0 mL, Tris buffer, protein stabilizers, 0.05% ProClin 300.
CAL2	Calibrator 2, 1 bottle, 1.0 mL, anti-EB EA IgM in Tris buffer with protein stabilizers, 0.05% ProClin 300.

MATERIALS REQUIRED (BUT NOT PROVIDED)

REF C89999/C89959/C89949, iFlash Pre-Trigger Solution: hydrogen peroxide solution.

REF C89998/ C89958/ C89948, iFlash Trigger Solution: sodium hydroxide solution.

REF C89997, iFlash Wash Buffer: phosphate buffered saline solution with 0.05% ProClin 300.

REF C80001, iFlash Wash Buffer (10×): phosphate buffered saline solution with 0.05% ProClin 300.

REF C89996, reaction vessels.

WARNINGS AND PRECAUTIONS

IVD For in vitro diagnostic use

- The calibrators (CAL1 and CAL2) have been prepared exclusively from the blood of donors tested individually and shown to be free from HBsAg, anti-HCV, and anti-HIV-1/2 by approved methods.
- However, no known test method can offer the complete assurance that products derived from human sources will not transmit infection. Therefore, all humanized materials should be considered potentially infectious.
- Exercise the normal precautions required for handling all laboratory reagents.
- Disposal of all waste material should be in accordance with local guidelines.
- Wear gloves when handling specimens or reagents.
- Clean and disinfect all spills of specimens or reagents using a suitable disinfectant.
- iFlash Trigger solution contains sodium hydroxide (NaOH) and should be avoided contact with eyes.
- For further information on warnings and precautions, see Annex B.

REAGENT HANDLING

- The reagents may not be used after the stated expiration date.
- Avoid the formation of foam with all reagents.
- The reagents in the pack and calibrators are ready for use.
- Close the bottles of calibrator right after calibration and store at 2-8°C.
- Do not pool reagents within a reagent kit or between reagent kits.
- Prior to loading the iFlash-EB EA IgM reagent pack on the system for the first time, resuspend the microparticles by inverting the reagent pack slightly.
- For further information on reagent handling

precautions during system operation, refer to the iFlash system operating instruction.

STORAGE AND STABILITY

Storage:

- Store at 2-8°C in an upright position.
- The kit may be used immediately after removal from 2-8°C storage.

Stability:

- Unopened at 2-8°C: up to the stated expiration date.
- Opened at 2-8°C: 28 days.
- Store on-board: 28 days.

SPECIMEN COLLECTION AND PREPARATION

- Serum or plasma (lithium heparin, sodium heparin potassium EDTA, and sodium citrate) are the recommended samples. Other anticoagulants have not been validated for use with the iFlash-EB EA IgM assay.
- Ensure that complete clot formation in serum specimens has taken place prior to centrifugation.
- Centrifuge the specimens.
- Store specimens at room temperature (20 to 25°C) for no longer than 8 hours.
- If the testing will not be completed within 8 hours, refrigerate the samples at 2 to 8°C.
- If the testing will not be completed within 14 days, or for shipment of samples, freeze at -20°C or colder.
- Frozen specimens must be mixed thoroughly after thawing.
- The samples may be frozen for maximum 3 times.
- Centrifuge specimens with a lipid layer on the top, and transfer only the clarified specimen without the lipemic material.
- Ensure that residual fibrin and cellular matter have been removed prior to analysis.
- Use with caution in handling patient specimens to prevent cross-contamination.
- Do not use heat-inactivated samples.
- Ensure that the patient samples, calibrators and controls are at ambient temperature (20-25°C) before measurement.
- Due to the possible evaporation, specimens and calibrators on the analyzers should be measured within 2 hours.

ASSAY PROCEDURE

- Refer to the system operating instruction or the online help system for detailed information on preparing the system.
- The test-specific parameters stored in barcode on the reagent pack are read in. In case the barcode cannot be read, enter the sequence numbers.
- Carry out calibration, if necessary.
- Place the calibrators CAL1 and CAL2 in the calibrator rack in the sample zone. Only keep calibrators open during calibration.
- Test application.
- Load samples (20 µL of sample is needed for each determination in addition to the sample container and system dead volumes).
- Click RUN, the iFlash System performs all the functions automatically and calculates the results.

CALIBRATION

- Every iFlash-EB EA IgM reagent kit has a QR code label containing the specific information for calibration of the particular reagent lot.
- To perform an iFlash-EB EA IgM calibration, test CAL1 and CAL2 in duplicate and the software calculate the cutoff value based on the RLUs of the two calibrators and information from the QR code.
- Once an iFlash-EB EA IgM calibration is accepted and stored, all subsequent samples may be tested without further calibration unless:
  - After 28 days when using the same reagent lot.
  - A reagent kit with a new lot number is used.
  - Controls are out of range.
  - Required by pertinent regulations.

QUALITY CONTROL

Quality control materials should be run as single determinations at least once every 24 hours when the test is in use, once per reagent kit and after every calibration. Include commercially available quality control materials that cover at least two levels of analyte. Follow manufacturer's instructions for reconstitution and storage. Each laboratory should establish mean values and acceptable ranges to assure proper performance. Quality control results that do not fall within acceptable ranges may indicate invalid test results.

RESULT

Calculation:

The iFlash system automatically calculates the analyte concentration of each sample. The results are given in COI.

Interpretation of Results

- Nonreactive: COI < 0.9
- Indeterminate: ≥ 0.9 - < 1.1
- Reactive: COI ≥ 1.1

Individuals with nonreactive results indicate the absence of acute infection.

Samples with indeterminate result should be retested. In case the result is still indeterminate, a second sample should be collected within an appropriate period of time (e.g. 2 weeks).

A reactive result indicates acute infection. Such individuals are potentially at risk of transmitting EB EA infection.

LIMITATIONS

- The iFlash-EB EA IgM assay is limited to the determination of EB EA IgM in human serum or plasma (lithium heparin, sodium heparin, potassium EDTA, and sodium citrate). It has not been validated for use with other types of plasma.
- The use of serum separator (gel) blood collection tubes has been validated for use with this assay. However, it is not possible to survey all manufacturers or tube types.
- If the results are inconsistent with clinical evidence, additional testing is suggested to confirm the result.
- For diagnostic purposes, the results should be interpreted in light of the total clinical presentation of the patient, including symptoms, clinical history results.
- Specimens from heparinized patients may be partially coagulated and erroneous results could occur due to the presence of fibrin.
- The results from an alternative assays (i.e. EIA or RIA) may not be equivalent and cannot be used interchangeably.
- The assay is unaffected by icterus (bilirubin < 30 mg/dL), hemolysis (Hb < 1,500 mg/dL), lipemia (Intralipid < 1,500 mg/dL) and total serum protein (< 10 g/dL).
- No interference was observed from rheumatoid factors up to a concentration of 2,000 IU/mL.

PERFORMANCE CHARACTERISTICS

Below are the representative performance data, and the results obtained in individual laboratories may differ

Precision

The iFlash-EB EA IgM is designed to have a precision of ≤10% total CV.

The precision of iFlash-EB EA IgM was determined using EB EA IgM reagents, samples and controls. Two serum samples, consisting low and high concentration of anti-EB EA IgM were assayed.

The within run precision was determined by testing each sample in replicates of 10 (n = 10), and calculating percent coefficient of variation (%CV). The results of the study are shown below:

Sample	Mean (COI)	SD	%CV
1	1.64	0.08	4.88
2	3.49	0.10	2.87

The between run precision was determined by testing each sample in duplicate, two separate runs daily for 20 days (n = 80), and calculating percent coefficient of variation (%CV). The results of the study are shown below:

Sample	Mean (COI)	SD	%CV
1	1.67	0.12	7.19
2	3.30	0.19	5.76

Analytical Specificity

The analytical specificity of iFlash-EB EA IgM assay was evaluated with viral antibody specimens. The nonreactive EB EA IgM status of each specimen was verified using a commercially available EB EA IgM assay.

Clinical Category	Number of Specimens	IFlash-EB EA IgM Nonreactive
EB VCA IgG	3	3
EB VCA IgM	9	9
VZV IgM	6	6
Toxo IgM	4	4
Rubella IgM	5	5
CMV IgM	12	12
HSV1+2 IgM	18	18
HBc IgM	9	9
HAV IgM	6	6
EB NA IgM	12	12
EB EA IgG	18	18
Total Samples	102	102

Relative Sensitivity

Relative sensitivity of iFlash-EB EA IgM assay was determined by testing samples that were found reactive in a commercially available EB EA IgM assay. A total of 122 samples including sequential and single samples were tested with iFlash-EB EA IgM assay.

Clinical Category	Number of Specimens	Reactive Specimens	Relative Sensitivity
EB EA infected	122	120	98.4

Relative Specificity

Relative specificity of iFlash-EB EA IgM assay was determined by testing samples that were found nonreactive in a commercially available EB EA IgM assay. A total of 397 samples were tested with iFlash-EB EA IgM assay.

Clinical Category	Number of Specimens	Non-reactive Specimens	Relative Specificity
Hospitalized patients	397	392	98.7

REFERENCES

1. Epstein MA, Achong BG, Barr YM. Virus particles in cultured lymphoblasts from Burkitt's lymphoma. Lancet 1964; 1: 702–703.
2. Cohen JI. Epstein-Barr virus infection. N Engl J Med 2000; 343: 481–492.
3. Williams H, Crawford DH. Epstein-Barr virus: the impact of scientific advances on clinical practice. Blood 2006; 107: 862–9.
4. Hess RD. Routine Epstein-Barr virus diagnostics from the laboratory perspective: still challenging after 35 years. J Clin Microbiol 2004; 42: 3381–7.
5. Odumade OA, Hogquist KA, Balfour Jr HH. Progress and problems in understanding and managing primary Epstein-Barr virus infections. Clin Microbiol Rev 2011; 24.
6. Lamy ME, Favart AM, Cornu C, Mendez M, Segas M, Burtonboy G. Study of Epstein Barr virus (EBV) antibodies: IgG and IgM anti-VCA, IgG anti-EA and Ig anti-EBNA obtained with an original microtiter technique: -serological criterions of primary and recurrent EBV infections and follow-up of infectious mononucleosis-seroepidemiology of EBV in Belgium

based on 5178 sera from patients. Acta Clin Belg 1982; 37: 281–98.

7. 193–209.Henle G, Henle W. Epstein–Barr virus-specific IgA serum antibodies as an outstanding feature of nasopharyngeal carcinoma. Int J Cancer 1976; 17: 1–7.
8. Ho HC, Ng MH, Kwan HC, Chau JC. Epstein–Barr-virus-specific IgA and IgG serum antibodies in nasopharyngeal carcinoma. Br J Cancer 1976; 34: 655–60.

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ANNEX A:

Explanation of abbreviation

Abbreviation	Explanation
REF	Product No.
CAL	Calibrator
R	Reagent
Σ	Number of tests
	Manufactured by
EC REP	EU Representative
CE	EC Declaration of Conformity
	Caution
	Instructions for use
IVD	In vitro diagnostic medical device
LOT	Lot No.
	Date of manufacture
	Expiry date
	Biohazard Symbol
GHS07	Pictograms for Caution
GHS09	Pictograms for Hazardous to the aquatic environment

ANNEX B:

WARNINGS AND PRECAUTIONS (Proclin 300)

- Hazardous Component: 0.05% Proclin 300

  (Reaction mass of: 5-chloro-2-methyl-4-isothiazolin

  [EC no. 247-500-7] and 2-methyl-4-isothiazolin-3-one [EC no. 200-239-6] (3:1))
- Hazard Statement:

  H317: May cause an allergic skin reaction.

  H319: Causes serious eye irritation.

  H410: Very toxic to aquatic life with long-lasting effects.
- Precautionary Statement:

  P261: Avoid breathing dust/fume/gas/mist/vapours/ spray.

  P264: Wash hands thoroughly after handling.

  P272: Contaminated work clothing should not be allowed out of the workplace.

  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.

  P337+P313: If eye irritation persists: Get medical advice/attention.

  P333+P313: If skin irritation or rash occurs: Get medical advice/attention.

  P302+P352: IF ON SKIN: Wash with plenty of soap and water.

  P321: Seek immediate care from a doctor.

  P363: Wash contaminated clothing before reuse.

  P273: Avoid release to the environment.

  P391: Collect spillage.

  P501: Dispose of contents/container in a safe way.