



Bioline®

# HAV IgG/IgM

Rapid Test for IgG and IgM Antibodies to Hepatitis A Virus

Prueba rápida de anticuerpos IgM/IgG del virus de la Hepatitis A

## ENGLISH

### About the test

**[Introduction]** Hepatitis A is caused by infection with the hepatitis A virus (HAV), a non-enveloped RNA agent classified as a picornavirus. Hepatitis A is an acute infectious disease of the liver and can be serious for older people and people with preexisting liver disease. Death from HAV infection is possible, but is very rare. The incubation period of hepatitis A is 15-50 days, with an average of 28 days. The illness caused by HAV infection typically has an abrupt onset of signs and symptoms that include fever, malaise, anorexia, nausea and abdominal discomfort, followed several days later by dark urine and jaundice. Hepatitis A is transmitted through feces, and infection can spread through close contact with an infected person and eating contaminated food or drinking contaminated water.

**[Test principle]** The Bioline™ HAV IgG/IgM test is designed to simultaneously detect and differentiate IgG and IgM antibodies to hepatitis A virus in human serum or plasma. The Bioline™ HAV IgG/IgM test device has 3 pre-coated lines on the surface of the membrane: "G" (HAV IgG test line), "M" (HAV IgM test line) and "C" (control line). Neither the test lines nor the control line is visible in the result window before applying a specimen.

The control line is used for procedural control and should always appear if the test procedure is performed properly and the test reagents of the control line are working. Purple "G" and "M" lines will be visible in the result window if there are enough IgG and/or IgM antibodies to hepatitis A virus in the specimen. If IgG and/or IgM antibodies to hepatitis A virus are not present in the specimen, no color will appear at the "G" and/or "M" lines.

**[Intended use]** The Bioline™ HAV IgG/IgM test is a solid phase, immunochromatographic assay for the rapid, qualitative and differential detection of IgG and IgM antibodies to hepatitis A virus in human serum or plasma. Bioline™ HAV IgG/IgM is intended only for professional use as the initial test, as an aid to diagnosis, a more specific alternative diagnosis method, such as virus isolation and RT-PCR, must be used in order to obtain a confirmation of hepatitis A virus infection.

### Materials provided and active ingredients of main components

- The Bioline™ HAV IgG/IgM test kit contains following items to perform the assay:
  - 25 Test devices with desiccant in individual foil pouches
  - Assay diluent (1 x 5 ml/vial)
  - 25 Capillary pipettes (5 µl)
  - 1 Instructions for use
  - Active ingredients of main components
    - 1 test device includes:
      - Gold Conjugates: Mouse monoclonal anti-Hepatitis A Virus-gold colloid ( $1.0 \pm 0.2 \mu\text{g}$ )
      - Test line "G": Mouse monoclonal anti-human IgG ( $0.640 \pm 0.128 \mu\text{g}$ )
      - Test line "M": Mouse monoclonal anti-human IgM ( $0.224 \pm 0.045 \mu\text{g}$ )
      - Control line: Goat anti-mouse IgG ( $0.640 \pm 0.128 \mu\text{g}$ )
      - Antigen: Recombinant Hepatitis A virus Antigen ( $1.5 \pm 0.3 \mu\text{g}$ )
    - Assay diluent includes: 100mM phosphate buffer (5 ml), Tween 20 (0.1 v/v%), sodium azide (0.01 w/v%)

### Materials required but not provided

- Micropipette, Protective gloves, Timer, Biohazard container

### Kit storage and stability

- The test device should be stored at a temperature between 1°C and 30°C. Do not freeze the test kit or its components.
- For best results, strict adherence to these instructions is required.
- All specimens should be handled as if they were potentially infectious.
- The test device is sensitive to both humidity and heat. Perform the test immediately after removing the test device from the foil pouch.
- Do not use the test kit beyond its expiration date. The shelf life of the kit is as indicated on the outer package.
- Do not use the test kit if the pouch is damaged or the seal is broken.
- The components (test device and assay diluent) in this kit have been quality control tested as standard batch unit. Do not mix components from different lot numbers.

### Warnings

- The test devices are for *in vitro* diagnostic use only. Do not reuse the test device.
- Do not eat or smoke while handling specimens.
- Wear protective gloves while handling specimens and wash hands thoroughly afterwards.
- Avoid splashing or aerosol formation of specimen and assay diluent.
- Clean up spills thoroughly using an appropriate disinfectant.
- Decontaminate and dispose of all specimens, reaction kits and potentially contaminated materials in a biohazard container as if they were infectious waste.
- The assay diluent contains a low concentration of sodium azide as a preservative. Sodium azide is toxic and should be handled carefully to avoid ingestion and skin contact.
- Do not drink assay diluent.
- The assay diluent contains a proprietary anti-microbial agent, sodium azide, which presents no hazard to the user if normal laboratory safety precautions are followed. If contact with assay diluent to the eyes and/or skin, wash affected area with soap and water immediately. If irritation or signs of toxicity occur, seek medical attention.

### Specimen collection and storage

- Specimen collection and storage
  - [Plasma]** Using venipuncture, draw the whole blood into the collection tube (containing anticoagulants including heparin, EDTA and sodium citrate) and then centrifuge blood to obtain the plasma specimen.
  - [Serum]** Using venipuncture, draw the whole blood into the collection tube (NOT containing anticoagulants) then leave for 30 minutes to allow blood coagulation to occur. Centrifuge the tube to generate a serum specimen.
  - If plasma or serum specimens are not tested immediately, they must be refrigerated at 2 - 8 °C. For storage period longer than 2 weeks, freezing (below -20 °C) is required. Bring plasma or serum specimens to room temperature (15 - 30 °C) prior to use.

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- Plasma or serum specimens containing a precipitate may yield inconsistent test results. Such specimens must be clarified by centrifugation prior to assaying.
- Precautions
  - Anticoagulants including heparin, EDTA and sodium citrate do not affect the test result. Use of other anticoagulants has not been validated. Their use may affect the test result.
  - Hemolytic specimens, specimens containing rheumatoid factors and lipaemic, icteric specimens can cause interference and impair test results.
  - Use new disposable capillary pipettes or pipette tips for each specimen in order to avoid cross-contamination of other specimen which could cause erroneous results.

### Test procedure (Refer to figure)

- Bring all kit components and specimens to reach a temperature between 15 °C and 30 °C prior to testing.
- Remove the test device from foil pouch and place it on a flat, dry surface. Label the test device with a patient identifier.
- [Using a capillary pipette]**  
Dispense 5 µl of serum or plasma specimen drawn into the square specimen well.  
**Or,**  
**[Using a micropipette]**  
Dispense 5 µl of serum or plasma specimen into the square specimen well.
- Dispense 4 drops of assay diluent into the round assay diluent well.
- Interpret test results at 20 minutes.

**Caution:** Do not read test results after 20 minutes. Reading after 20 minutes can yield false results.

### Test interpretation (Refer to figure)

- Negative Result:** The presence of only the control line (C) within the result window indicates a negative result.
- Positive Result:**

**Caution:** The presence of any test line, no matter how faint, the result is considered positive.

  - IgM Positive:** The control line (C) and IgM line (M) are visible on the test device. This is positive for IgM antibodies to HA virus.
  - IgG Positive:** The control line (C) and IgG line (G) are visible on the test device. This is positive for IgG antibodies to HA virus.
  - IgG and IgM Positive:** The control line (C), IgM line (M) and IgG line (G) are visible on the test device. This is positive for both IgM and IgG antibodies to HA virus.
- Invalid Result:** If the control line (C) is not visible within the result window after performing the test, the result is considered invalid. Instructions may not have been followed correctly or the test may have deteriorated. It is recommended that the specimen be retested using a new test device.

### Test limitations

- This test detects the presence of antibodies to Hepatitis A virus in the specimen and should not be used as the sole criterion for the diagnosis of Hepatitis A virus infection.
- The diagnosis of acute hepatitis A virus infection is confirmed during the acute or early convalescent phase of infection by the presence of IgM anti-hepatitis A virus in serum or plasma. IgM anti-hepatitis A virus generally disappears within 6 months after the onset of symptoms. IgG anti-Hepatitis A virus appears in the convalescent phase of infection, remains for the lifetime of the person, and confers enduring protection against disease.
- The presence of total anti-Hepatitis A virus or absence of IgM anti-Hepatitis A virus indicates immunity consistent with either past infection or vaccination.
- Persons who test positive for IgM anti-Hepatitis A virus more than 1 year after infection have been reported, as have likely falsepositive tests for persons without evidence of recent Hepatitis A virus infection.
- A negative result can occur if the quantity of the IgG and/or IgM anti-Hepatitis A virus present in the specimen is below the detection limits of the assay, or the antibodies that are detected are not present during the stage of disease in which a sample is collected.
- As with all diagnostic tests, all results must be considered with other clinical information available to the physician.
- The test procedure, precautions and interpretation of results for this test must be followed strictly when testing.

### Internal quality control

The Bioline™ HAV IgG/IgM test device has "Test lines G, M" and "Control line" on the surface of the device. Both the Test Lines and Control Line in result window are not visible before applying any specimens. The Control Line is used for procedural control. The control line of the RDT only shows that the diluent has been applied successfully, and that the active ingredients of main components on the strip was still functional, but is not a guarantee that the specimen has been properly applied and does not represent a positive specimen control.

### Performance characteristics

The performance of the Bioline™ HAV IgG/IgM test was evaluated with commercial HAV IgM test. We used 125 specimens for positive and 150 specimens for negative. We found the relative sensitivity is 97.6% (122/125), the relative specificity is 98.0% (147/150). The results are summarized in the following table.

	Bioline™ HAV IgG/IgM		Commercial HAV IgM		Total
	Positive	Negative	Positive	Negative	
Confirmed by ELISA	Positive Specimens		122	3	125
	Negative Specimens		3	147	150
Sensitivity (95 % CI)	97.6 % (93.2 - 99.2 %)		83.2 % (75.7 - 88.7 %)		
Specificity (95 % CI)	98.0 % (94.3 - 99.3 %)		87.3 % (81.1 - 91.7 %)		

### Product Disclaimer:

Whilst every precaution has been taken to ensure the diagnostic ability and accuracy of this product, the product is used outside of the control of the Manufacturer and Distributor and the result may accordingly be affected by environmental factors and / or user error. A person who is the subject of the diagnosis should consult a doctor for further confirmation of the result.

### Warning:

The Manufacturers and Distributors of this product shall not be liable for any losses, liability, claims, costs or damages whether direct or indirect or consequential arising out of or related to an incorrect diagnosis, whether positive or negative, in the use of this product.

The assay diluent contains a low concentration of sodium azide as a preservative. Sodium azide is toxic and should be handled carefully to avoid ingestion and skin contact.

Do not drink assay diluent.

The assay diluent contains a proprietary anti-microbial agent, sodium azide, which presents no hazard to the user if normal laboratory safety precautions are followed. If contact with assay diluent to the eyes and/or skin, wash affected area with soap and water immediately. If irritation or signs of toxicity occur, seek medical attention.

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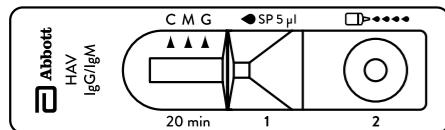
Abbott

Bioline™

# HAV IgG/IgM

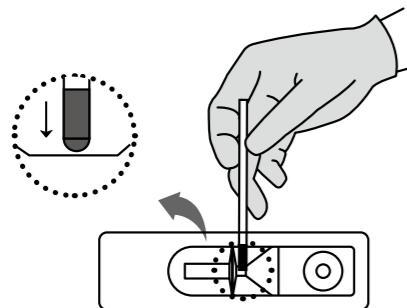
Rapid Test for IgG and IgM Antibodies to Hepatitis A Virus  
Prueba rápida de anticuerpos IgM/IgG del virus de la Hepatitis A

## TEST PROCEDURE / PROCEDIMIENTO DE PRUEBA

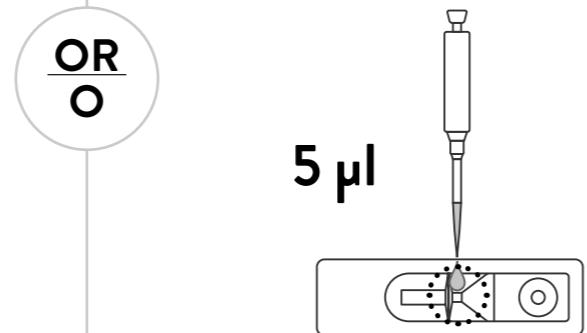


● SP 5 µl : 5 µl of serum or plasma / 5 µl de suero o plasma  
□ ----- : Assay diluent 4 drops / 4 gotas del diluyente del ensayo

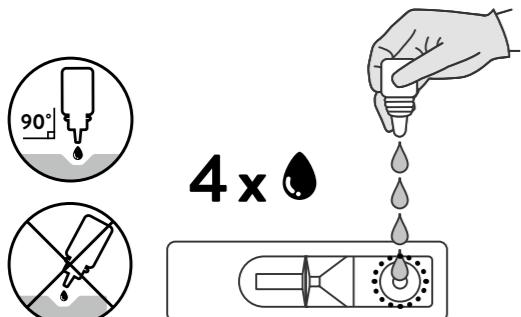
- 1** **EN** Using a capillary pipette, dispense 5 µl of serum or plasma into the specimen well.  
**ES** Usando la pipeta capilar, deposite 5 µl de la muestra de suero o plasma en el pozo de muestra.



- EN** Using micropipette, dispense 5 µl of serum or plasma into the specimen well.  
**ES** Usando una micropipeta, deposite 5 µl de la muestra de suero o de plasma en el pozo de prueba.



- 2** **EN** Dispense 4 drops of assay diluent into the round assay diluent well.  
**ES** Deposite 4 gotas de diluyente de ensayo en el pozo redondo de diluyente de ensayo.



- 3** **EN** Interpret test results at 20 minutes.  
⚠ Caution : Do not read test results after 20 minutes. Reading after 20 minutes can yield false results.  
**ES** Interprete los resultados de la prueba en 20 minutos.

⚠ Precaución : No lea los resultados de la prueba transcurridos 20 minutos. Si la lectura se realiza demasiado tarde puede producir resultados falsos.



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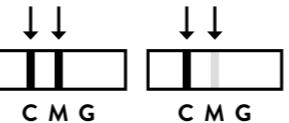
## INTERPRETATION / INTERPRETACIÓN

### POSITIVE / POSITIVO

- EN** ⚠ Caution: The presence of any test line, no matter how faint, the result is considered positive.  
**ES** ⚠ Precaución: La presencia de cualquier línea de prueba, aunque sea de un color débil, indica que el resultado es positivo.

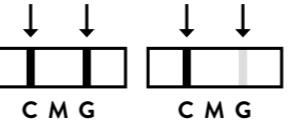
### IgM Positive / IgM Positivo

- EN** The control line (C) and IgM line (M) are visible on the test device. This is positive for IgM antibodies to HA virus.  
**ES** La línea de control (C) y la línea IgM (M) son visibles en el dispositivo de prueba. El resultado es positivo para anticuerpos IgM de VHA.



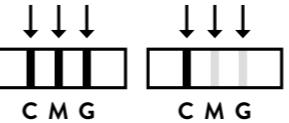
### IgG Positive / IgG Positivo

- EN** The control line (C) and IgG line (G) are visible on the test device. This is positive for IgG antibodies to HA virus.  
**ES** La línea de control (C) y la línea IgG (G) son visibles en el dispositivo de prueba. El resultado es positivo para anticuerpos IgG de VHA.



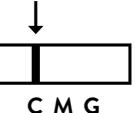
### IgG and IgM Positive / IgG y IgM Positivo

- EN** The control line (C), IgM line (M) and IgG line (G) are visible on the test device. This is positive for both IgM and IgG antibodies to HA virus.  
**ES** La línea control (C), línea IgM (M) y la línea IgG (G) son visibles en el dispositivo de prueba. Esto indica un resultado positivo para ambos anticuerpos IgM e IgG de VHA.



### NEGATIVE / NEGATIVO

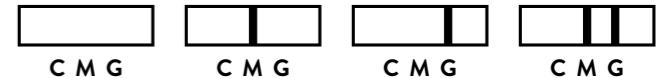
- EN** The presence of only the control line (C) within the result window indicates a negative result.  
**ES** Si solo aparece la línea de control (C) en la ventana de resultados, el resultado es negativo.



### INVALID / NO VÁLIDO

- EN** If the control line (C) is not visible within the result window after performing the test, the result is considered invalid. Instructions may not have been followed correctly or the test may have deteriorated. It is recommended that the specimen be retested using a new test device.

- ES** Si no se ve la línea de control (C) en la ventana de resultados después de ejecutar la prueba, se considera que no hay un resultado válido. Esta situación puede deberse a que no se siguieron correctamente las instrucciones o a que la prueba se haya deteriorado. Se recomienda volver a analizar la muestra con un dispositivo de prueba nuevo.



## GLOSSARY OF SYMBOLS / GLOSARIO DE SÍMBOLOS

	Temperature limitation Limitaciones de temperatura		Lot Number Número de Lote
	For in vitro diagnostic use only Solo para uso de diagnóstico <i>in vitro</i>		Catalog Number Número de Referencia
	Do not reuse No Reutilizar		Manufacturer Fabricante
	Instructions for use Atención, ver Instrucciones de uso		Use by Fecha de caducidad
	Contains sufficient for X tests Contenido suficiente para X pruebas		Date of manufacture Fecha de fabricación
	Keep away from sunlight Manténgase fuera de la luz del sol		Do not use if packaging is damaged No utilizar si el envase está dañado
	Keep dry Manténgase seco		Biological Risks Riesgos biológicos
	Caution Precaución		Authorized Representative Representante autorizado
	CE marking according to IVD Medical Devices Directive 98/79/EC Marcado CE conforme a la Directiva 98/79/CE relativa a los productos sanitarios para diagnóstico <i>in vitro</i>		