

Rapid Screening test for the qualitative detection of antibody to Hepatitis C Virus (HCV) in human serum or plasma

READ THE PACK INSERT CAREFULLY BEFORE PERFORMING THE TEST

Catalogue No. : HCC-LF

INTENDED USE : HEPASCAN Hepatitis C Virus card test is an immunochromatography based assay for the qualitative detection of Hepatitis C virus in human serum or plasma.

INTRODUCTION : Hepatitis C Virus (HCV) is a small, enveloped, positive - sense, single standard RNA virus. HCV is known to be the major cause of parenterally transmitted non-A, non-B, (NANB) hepatitis. Like the hepatitis B Virus, HCV is typically transmitted parenterally. It is associated especially with the transfusion of contaminated blood and blood products. Other common routes of transmission include intravenous drug use and needle stick accidents. Present evidence indicates that sexual route is not important in the transmission of HCV. However, HCV transmission occurs more readily and with greater frequency if the sexual partner is co-infected with HIV. Prenatal transmission of HIV from mother to infant is uncommon. The risk of mother to infant transmission may be much greater if the mother is co-related with HIV. The risk of post-transfusion hepatitis was estimated to be 7 to 18%. with approximately 90% of post-transfusion hepatitis being caused by the NANB hepatitis agent. Conventional methods failed to isolate the virus in cell culture or visualize it by electron microscope. Cloning the viral genome made it possible to develop serological assays that use recombinant antigens. Compared to the first generation HCV ELISA's using single recombinant antigen, multiple antigens using recombinant protein and synthetic peptides have been added in new serological tests (Third generation tests) to avoid non specific cross reactivity and to increase the sensitivity of the HCV antibody tests.

HCV Card test is indigenously developed rapid test device to qualitatively detect the presence of antibody to HCV in serum or plasma specimens. This is only screening test for detection of HCV antibodies. If the sample gives positive result in this method confirmatory tests such as ELISA, Immuno Blot should be performed.

PRINCIPLE

This test is based on immuno - chromatographic principle. The test device consists of sample window containing a reagent release pad. The reagent release pad is held in contact with the porous membrane material. The membrane has three zones. The first zone is mobilized by the sample and it consists of coloured colloidal gold particles sensitized with protein A. The second zone consists of recombinant HCV antigens immobilized on the membrane (Test line). The recombinant HCV antigens used in this test include both structural (nucleocapsid) and non structural protein including NS-3, NS-4 and NS-5. The third zone (Control line) consists of control antibody, which is also immobilized on the membrane. If HCV antibody is present in the test sample, it will form a complex with the protein A - colloidal gold conjugate and then move on, to be trapped by the test line, causing the formation of red line. The unbound colloidal gold particles continue to move along the strip by capillary action until they come in contact with the control line and are trapped, giving a red line demonstrating the validity of the test.

STORAGE & STABILITY : Store at 2-30°C. The kit is stable until the expiry date mentioned on the pouch, when stored under the above condition.

PACK SIZE : Available in packs 10s, 20s and 50s

CONTENTS OF THE KIT :

PACK SIZE	10 Tests	20 Tests	50 Tests	100 Tests
Test Device	10	20	50	100
Diluent Dropper	1.4 ml	2.8 ml	7 ml	7 ml x 2
5µl Dropper	10 Nos.	20 Nos.	50 Nos.	100 Nos.
Silicagel	10 Nos.	20 Nos.	50 Nos.	100 Nos.

Material required but not provided :

- a) Sterilized vial
- b) Disposable gloves
- c) Precision pipette
- d) Sodium hypochlorite solution (free available chlorine 50-500mg/L)

Warnings & Precautions :

In order to obtain reproducible results, the following rules must be observed:

- a). Read this Pack Insert carefully.
- b). DO NOT FREEZE THE KITS. If refrigerated the kits should be brought to room temperature before testing. Assay should be conducted below 15-30°C.
- c). Do not use the kits beyond their expiry date.
- d). Use only serum or plasma.
- e). Carefully observe the prescribed number of drops to be added 5µl of serum or plasma and 2 drops of diluent only.
- f). Use the test device soon after it is removing from the pouch.
- g). Do not use the test device, if the pouch seal is broken.
- h). Avoid any contamination among samples; for this purpose, disposable tips and sterilized vial should be used for each sample and reagent.
- i). Read the Positive result in 10 minutes and Negative result in 20 minutes. DO NOT INTERPRET THE RESULT AFTER 20 MINUTES.
- j). Do not smoke, eat drink or apply cosmetics during the assay.
- k). For Invitro Diagnostic Use only.
- l). For single use only.
- m). Avoid using haemolytic, lipaemic, icteric or bacterially contaminated specimens. Otherwise they may give erroneous results.

SPECIMEN : Fresh Serum or Plasma can be used for testing.

SPECIMEN COLLECTION & PREPARATIONS :

- a). Collect blood in a clean, dry, Serialized vial and allow it to clot. Separate the serum by centrifugation at 5000 r.p.m. for 15 minutes at room temperature.
- b). If serum is not be assayed immediately it should be stored at 2-8 °C or if storing more than 3 days then freeze the specimen at - 20 C or below.

ASSAY PROCEDURE

- a). Bring the pouch to room temperature.
- b). Remove the device from the pouch just prior to testing.
- c). Place the device on a flat surface.
- d). Add 5µl of serum or plasma (Fill the sample upto the mark in the dropper provided) into sample window and allow to soak in.
- e). Add 2 drops of diluent provided in the dropper bottle into the same sample window.
- f). Read the positive results in 10 minutes & Negative results in 20 minutes. DO NOT READ AFTER 20 MINUTES
- g). Any line appearing after 20 minutes would be of no diagnostic value.

INTERPRETATION OF TEST RESULTS

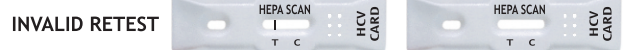
Negative : If only one red line (Control Line) appears in the result area interpret the result as negative This shows that the specimen does not contain antibodies to HCV.



Positive : If two red line (Control and Test Line) appear in the result area, the specimen is reactive for antibodies to HCV.



Invalid : If no line or only test line appears within the result window, after performing the test, the result is considered invalid. The direction may not have been followed correctly or the silicagel might have turned white. Repeat the test with a new device.



TROUBLE SHOOTING

FLOODING OF SAMPLE	
Cause/Error	Remedy
Addition of more than 2 drops of diluent	Use only 2 drops of diluent

WEAK INTENSITY OF CONTROL LINE	
Cause/Error	Remedy
Very cold reagent	Bring the sample to room temperature before testing (25° + 5°C) if stored at 2-8 °C.

POOR SENSITIVITY	
Cause/Error	Remedy
• Frozen samples is not mixed properly after thawing.	Mix the sample well and centrifuge to remove particulate matter before pipetting.
• Hooks Effect, due to too high concentration of the antibodies	Dilute the serum 10 times with negative serum and test again.
• More than 5µl of sample added	Add exactly 5µl of sample by filling the sample upto the mark in the dropper.

GHOST LINE APPEARANCE	
Cause/Error	Remedy
Backflow	Read the result within the prescribed time.

PERFORMANCE CHARACTERISTICS :

ACCURACY : HepaScan ® HCV Card Test meets the requirements when tested against approved kit.

Specificity

No. of Negative Samples tested	No. of Negatives by Hepa-Scan ® HCV Card Test	Specificity (%)
68	68	100

Sensitivity

No. of Positive Samples tested	No. of Positives by Hepa-Scan ® HCV Card Test	Sensitivity (%)
36	36	100

VALIDATION : Please refer to the schedule below for quality performance as tested with Boston Biomedica Inc., HCV low titer Performance panel PHV 103

Panel Member	Result	HCV 3.0 (Abbott)
01	+	+
02	++	+++
03	+	++
04	+	++
05	++	+++

LIMITATIONS OF THE TEST :

1. Assay procedure and the interpretation must be followed exactly to avoid erratic results.
2. Because a variety of factors may cause non-specific reactions, samples found to be reactive must be re-tested by using a confirmatory test for HCV, such as ELISA, Immuno Blot.
3. A negative test result does not exclude the possibility of exposure to or infection with HCV.
4. The kit works best when used fresh samples. Samples which have been frozen and thawed several times contain particles which can block the membrane, hence resulting in improper flow of reagents and high background colour which may make the interpretation of the results difficult.

REFERENCES

1. Cayper, H.T.M. Wiakel, I.N. Vander Poel, C.L. (1971) J. of Hepatology, 13,5,15.
2. Halfon, Retal., (1997) J. Medical Virology. 52:391-395.
3. Sarin, S.K. & Hess. G. (1998). Transfusion associated Hepatitis.
4. Sayers, M.H. & Gretch DR. (1993). J. Transfusion 30, 809-13.

EN 980:2003 (E) MEDICAL DEVICES SYMBOL

	Temperature Limitation
	Batch Code
	Use by
	Date of Manufacture
	Company name & address
	Company Name
	In vitro Diagnostic Device
	Refer Operating Instructions
	Authorised Representative in European Community
	Do Not Reuse



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