hCG Pregnancy Rapid Test Cassette
(Urine)
Package Insert

REF FHC-102	English

A rapid test for the qualitative detection of human chorionic gonadotropin (hCG) in human urine.
For professional in vitro diagnostic use only.

INTENDED USE

The hCG Pregnancy Rapid Test Cassette is a rapid chromatographic immunoassay for the qualitative detection of human chorionic gonadotropin in human urine to aid in the early detection of pregnancy.

SUMMARY

Human chorionic gonadotropin (hCG) is a glycoprotein hormone produced by the developing placenta shortly after fertilization. In normal pregnancy, hCG can be detected in both urine and serum or plasma as early as 7 to 10 days after conception.[1,2,3,4] hCG levels continue to rise very rapidly, frequently exceeding 100mIU/mL by the first missed menstrual period[2,3,4] and peaking in the 100,000-200,000mIU/mL range about 10-12 weeks into pregnancy. The appearance of hCG in both the urine and serum or plasma soon after conception, and its subsequent rapid rise in concentration during early gestational growth, make it an excellent marker for the early detection of pregnancy.

The hCG Pregnancy Rapid Test Cassette is a rapid test that qualitatively detects the presence of hCG in urine specimen at the sensitivity of 25mIU/mL. The test utilizes a combination of monoclonal and polyclonal antibodies to selectively detect elevated levels of hCG in urine. At the level of claimed sensitivity, the hCG Pregnancy Rapid Test Cassette shows no cross-reactivity interference from the structurally related glycoprotein hormones hFSH, hLH and hTSH at high physiological levels.

PRINCIPLE

The hCG Pregnancy Rapid Test Cassette is a rapid chromatographic immunoassay for the qualitative detection of human chorionic gonadotropin in urine to aid in the early detection of pregnancy. The test uses two lines to indicate results. The test utilizes a combination of antibodies including a monoclonal hCG antibody to selectively detect elevated levels of hCG. The control line is composed of goat polyclonal antibodies and colloidal gold particles. The assay is conducted by adding a urine specimen to the specimen well of the test device and observing the formation of colored lines.The specimen mgrates via capillary action along the membrane to react with the colored conjugate. Positive specimens react with the specific antibody-hCG-colored conjugate to form a colored line at the test line region of the membrane. Absence of this colored line suggests a negative result. To serve as a procedural control, a colored line will always appear in the control line region indicating that proper volume of specimen has been added and membrane wicking has occurred.

REAGENTS

The test contains anti-hCG particles and anti-hCG coated on the membrane.

PRECAUTIONS

Please read all the information in this package insert before performing the test.

- For professional *in vitro* diagnostic use only. Do not use after the expiration date.
- The test should remain in the sealed pouch until ready to use.
- All specimens should be considered potentially hazardous and handled in the same manner as an infections agent.
- The used test should be discarded according to local regulations.

STORAGE AND STABILITY

Store as packaged at room temperature or refrigerated (2-30°C). The test is stable through the expiration date printed on the sealed pouch. The test must remain in the sealed pouch until use. **DO NOT FREEZE**. Do not use beyond the expiration date.

SPECIMEN COLLECTION AND PREPARATION

Urine Assay

A urine specimen must be collected in a clean and dry container. A first morning urine specimen is preferred since it generally contains the highest concentration of hCG; however, urine specimens collected at any time of the day may be used. Urine specimens exhibiting visible precipitates should be centrifuged, filtered, or allowed to settle to obtain a clear specimen for testing.

Specimen Storage

Urine specimens may be stored at 2-8°C for up to 48 hours prior to testing. For prolonged storage, specimens may be frozen and stored below -20°C. Frozen specimens should be thawed and mixed before testing.

MATERIALS

Materials provided

• Test cassettes • Droppers • Package insert

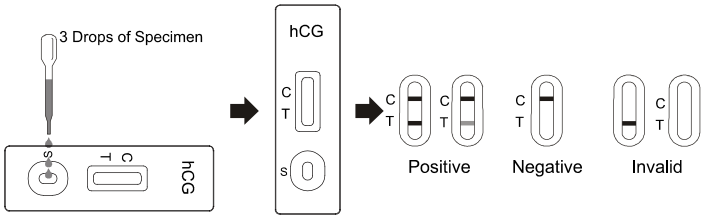
Materials required but not provided

• Specimen collection containers • Timer

DIRECTIONS FOR USE

1. Bring the pouch to room temperature (15-30°C) before opening it. Remove the cassette from the sealed pouch and use it as soon as possible.
2. Place the cassette on a clean and level surface. Hold the dropper vertically and **transfer 3 full drops of urine** to the specimen well of the cassette, and then start the timer. Avoid trapping air bubbles in the specimen well. See illustration below.
3. Wait for the colored line(s) to appear. The result should be **read at 3 minutes.**

NOTE: A low hCG concentration might result in a weak line appearing in the test line region (T) after an extended period of time; therefore, do not interpret the result after 10 minutes.



INTERPRETATION OF RESULTS

(Please refer to the illustration above)

POSITIVE: Two colored lines appear. One line should be in the control line region (C) and another line should be in the test line region (T). One line may be lighter than the other; they do not have to match. This means that you are probably pregnant.

NEGATIVE: One colored line appears in the control line region (C). No line appears in the test line region (T). This means that you are probably not pregnant.

INVALID: The result is invalid if no colored line appears in the control line region (C), even if a line appears in the test line region (T). You should repeat the test with a new test cassette.

QUALITY CONTROL

A procedural control is included in the test. A colored line appearing in the control line region (C) is considered an internal procedural control. It confirms sufficient specimen volume and correct procedural technique. A clear background is an internal procedural control. If a background color appears in the result window and interferes with the ability to read the test result, the result may be invalid. It is recommended that a positive hCG control (containing 25-250mIU/mL hCG) and a negative hCG control (containing "0"mIU/mL hCG) be evaluated to verify proper test performance when a new shipment of tests is received.

LIMITATIONS

1. The hCG Pregnancy Rapid Test Cassette is a preliminary qualitative test, therefore, neither the quantitative value nor the rate of increase in hCG can be determined by this test.
2. Very dilute urine specimens, as indicated by a low specific gravity, may not contain representative levels of hCG. If pregnancy is still suspected, a first morning urine specimen should be collected 48 hours later and tested.
3. Very low levels of hCG (less than 50mIU/mL) are present in urine specimens shortly after implantation. However, because a significant number of first trimester pregnancies terminate for natural reasons[5], a test result that is weakly positive should be confirmed by retesting with a first morning urine specimen collected 48 hours later.
4. This test may produce false positive results. A number of conditions other than pregnancy, including trophoblastic disease and certain non-trophoblastic neoplasms including testicular tumors, prostate cancer, breast cancer, and lung cancer, cause elevated levels of hCG[6,7].Therefore, the presence of hCG in urine should not be used to diagnose pregnancy unless these conditions have been ruled out.
5. This test may produce false negative results. False negative results may occur when the levels of hCG are below the sensitivity level of the test. When pregnancy is still suspected, a first morning urine specimen should be collected 48 hours later and tested. In case pregnancy is suspected and the test continues to produce negative results, see a physician for further diagnosis.
6. This test provides a presumptive diagnosis for pregnancy. A confirmed pregnancy diagnosis should only be made by a physician after all clinical and laboratory findings have been evaluated.

PERFORMANCE CHARACTERISTICS

Accuracy

A multi-center clinical evaluation was conducted comparing the results obtained using the hCG Pregnancy Rapid Test Cassette to another commercially available urine hCG Rapid test. The study included 608 urine specimens, and both assays identified 377 negative and 231positive results. The results demonstrated >99% overall accuracy of the hCG Pregnancy Rapid Test Cassette when compared to the other hCG Rapid Test.

Method		Other hCG Rapid Test		Total Results
hCG Pregnancy Rapid Test Cassette	Results	Positive	Negative	
	Positive	231	0	231
	Negative	0	377	377
Total Results		231	377	608

Sensitivity: >99.9% (98.7%~100%)*
Specificity: >99.9% (99.2%~100%) *
Accuracy: >99.9% (99.5%~100%) * * 95% Confidence Intervals

Sensitivity and Cross-Reactivity

The hCG Pregnancy Rapid Test Cassette detects hCG at a concentration of 25mIU/mL or greater. The test has been standardized to the W.H.O. International Standard. The addition of LH (300mIU/mL), FSH (1,000mIU/mL), and TSH (1,000μIU/mL) to negative (0mIU/mL hCG) and positive (25mIU/mL hCG) specimens showed no cross-reactivity.

Precision

Intra-Assay

Within-run precision has been determined by using 10 replicates of three specimens containing 25mIU/mL, 100mIU/mL, 250mIU/mL and 0mIU/mL of hCG. The negative and positive values were correctly identified 100% of the time.

Inter-Assay

Between-run precision has been determined by using the same three specimens of 25mIU/mL, 100mIU/mL, 250mIU/mL and 0mIU/mL of hCG in 10 independent assays. Three different lots of the hCG Pregnancy Rapid Test Cassette have been tested. The specimens were correctly identified 100% of the time.

Interfering Substance

The following potentially interfering substances were added to hCG negative and positive specimens.

Acetaminophen	20 mg/dL	Caffeine	20 mg/dL
Acetylsalicylic Acid	20 mg/dL	Gentisic Acid	20 mg/dL
Ascorbic Acid	20 mg/dL	Glucose	2 g/dL
Atropine	20 mg/dL	Hemoglobin	1 mg/dL
Bilirubin	2 mg/dL		

None of the substances at the concentration tested interfered in the assay.

BIBLIOGRAPHY

1. Batzer FR. Hormonal evaluation of early pregnancy, Fertil. Steril. 1980; 34(1): 1-13
2. Catt KJ, ML Dufau, JL Vaitukaitis Appearance of hCG in pregnancy plasma following the initiation of implantation of the blastocyte, J. Clin. Endocrinol. Metab. 1975; 40(3): 537-540
3. Braunstein GD, J Rasor, H. Danzer, D Adler, ME Wade Serum human chorionic gonadotropin levels throughout normal pregnancy, Am. J. Obstet. Gynecol. 1976; 126(6): 678-681
4. Lenton EA, LM Neal, R Sulaiman Plasma concentration of human chorionic gonadotropin from the time of implantation until the second week of pregnancy, Fertil. Steril. 1982; 37(6): 773-778
5. Steier JA, P Bergsjo, OL Myking Human chorionic gonadotropin in maternal plasma after induced abortion, spontaneous abortion and removed ectopic pregnancy, Obstet. Gynecol. 1984; 64(3): 391-394
6. Dawood MY, BB Saxena, R Landesman Human chorionic gonadotropin and its subunits in hydatidiform mole and choriocarcinoma, Obstet. Gynecol. 1977; 50(2): 172-181
7. Braunstein GD, JL Vaitukaitis, PP Carbone, GT Ross Ectopic production of human chorionic gonadotropin by neoplasms", Ann. Intern Med. 1973; 78(1): 39-45

Index of Symbols

	Consult instructions for use or consult electronic instructions for use	Σ	Contains sufficient for <n> tests	30°C 2°C	Temperature limit
IVD	*In vitro* diagnostic medical device	LOT	Batch code	REF	Catalogue number
EC REP	Authorized representative in the European Community		Use-by date		Do not re-use
	Do not use if package is damaged and consult instructions for use		Manufacturer		

ACRO BIOTECH, Inc.
4650 Arrow Highway,
Suite D-6 Montclair, CA 91763, U.S.A.
Tel: +1 (909) 541-5085 www.acrobiotech.com

EC REP
MedNet EC-REP GmbH
Borkstrasse 10
48163 Muenster Germany

Number: 145187003
Revision Date: 2023-10-11