

Sirin Diagnostic U-TEST Pregnancy Test Strip Format

For In Vitro Diagnostic and Professional Use Only (Urine)

INTENDED USE

U-TEST Pregnancy Test is an immunoassay made for the rapid, visual and qualitative determination of human chorionic gonadotropin (HCG) in urine specimen to aid in the early detection of pregnancy.

SUMMARY

Human chorionic gonadotropin (HCG) is a glycoprotein hormone secreted by the developing placenta shortly after fertilization. In normal pregnancy, HCG can be detected in urine as early as 7 days following conception. The concentration of HCG continues to rise rapidly, frequently exceeding 100 mIU/mL by the first missed menstrual period and peaking in the 100,000-200,000 mIU/mL range by 10-12 weeks into pregnancy. The appearance of HCG soon after conception and its subsequent rise in concentration during early gestational growth make it an excellent marker for the early detection of pregnancy.

PRINCIPLE

The U-TEST Pregnancy Test strip format is a chromatographic immuno-assay (CIA) for the rapid qualitative determination of HCG in urine. The membrane is pre-coated with anti-alpha HCG capture antibody on the test line region and goat anti-mouse on the control line region. During testing, the urine specimen is allowed to react with the colored conjugate (mouse anti-beta HCG monoclonal antibody-colloidal gold conjugate), which has been pre-dried on the test strip. The mixture then moves upward on the membrane chromatographically by capillary action. For a positive result, a pink-colored line with the specific antibody-HCG-colored conjugate complex will form in the test line region of the membrane. Absence of this pink-colored line in the test line region indicates a negative result. Regardless of the presence of HCG, as the mixture continues to move across the membrane to the immobilized goat anti-mouse, a pink-colored line at the control line region will always appear. The presence of this pink-colored line serves as: 1) verification that sufficient volume is added, 2) that proper flow is obtained, and 3) as a control for the reagents.

PRECAUTIONS

1. Read instruction for use carefully before performing this test.
2. Do not use the test strip beyond the expiration date.
3. The test strip should remain in the sealed pouch until use.
4. Do not reuse the strip. Discard it in the dustbin after use.
5. Treat urine specimen and used strips as if they were potentially infectious.

REAGENTS

The test strip contains an anti-alpha HCG capture antibody coated membrane and colloidal gold particles coated with mouse anti-beta HCG monoclonal antibody.

STORAGE AND STABILITY

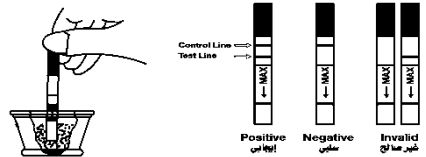
The test strip can be stored at 2-30°C in the sealed pouch. The test device is stable through the expiration date printed on the sealed pouch. DO NOT FREEZE.

SPECIMEN COLLECTION

Use a dry, clean container to collect urine. Urine specimen collected at any time of day may be used, however, the first morning urine is preferred since it generally contains the highest concentration of HCG.

TEST PROCEDURE

Test strip and specimen should be brought to room temperature (15-30) prior to testing. Do not open pouches until ready to perform the assay.



1. Remove the test strip from the sealed pouch, lay it flatly on a non-absorbent clean surface and use it as soon as possible.
2. For only urine specimen, immerse the strip into the urine, take the strip out after 5 seconds and lay the strip flat.
3. Wait for pink-colored lines to appear. Read result within 5-8 minutes. Do not read result after 10 minutes.

INTERPRETATION OF RESULTS

PREGNANT : Two distinct pink-colored lines appear, one in the test region (T) and one in the control region(C). NOTE:

NOTE: The intensity of the pink color in the test region (T) may vary depending on the concentration of HCG present in the specimen. Therefore, any shade of pink color in the test region (T) should be considered positive.

NOT PREGNANT : Only one pink-colored line appears in the control region(C). No apparent pink line appears in the test region (T). **INVALID**: Control Line fails to appear.

NOTE Insufficient specimen volume or incorrect procedural techniques are the most likely reasons for control line failure. Review the procedure and repeat the test with a new test device. If the problem persists, please contact your local distributor.

QUALITY CONTROL

A procedural control is included in the test. A colored line appearing on the control region (C) is considered an internal positive procedural control, indicating proper performance and reactive reagents. A clear background in the membrane is considered an internal negative procedural control. If the test has been performed correctly and reagents are working properly, the background will clear to give a discernible result.

EXPECTED VALUES

Negative result will be found in the urine of healthy men and healthy non-pregnant women. However, healthy pregnant women have HCG present in their urine specimens. The amount of HCG will vary greatly with gestational age and between individuals. The HCG Pregnancy Test strip has an analytical sensitivity of 10mIU/mL, and is capable of detecting pregnancy as early as 1 day after the first missed menses.

LIMITATION

1. Although it is not necessary to test with an early morning specimen, excessive fluid intake should be avoided before testing. A "Not Pregnant" result may be obtained if the urine specimen is too dilute.
2. The contents of this Cassette are for use in the qualitative detection of HCG in urine only.
3. A specimen with a low level of HCG may show color development over time. If a negative result is obtained but pregnancy is suspected, another specimen should be collected after 48-72 hours and tested.
4. Fertility drugs containing HCG can give misleading results (these fertility drugs are usually given by injection and testing too soon after administration may give a false pregnancy result.)
5. Other fertility therapies (such as clomiphene itrate), painkillers and hormonal contraceptives (e.g. contraceptive pill) should not affect the result.
6. HCG may remain detectable several days to several weeks after delivery, spontaneous abortion, or HCG injections
7. Ectopic pregnancy, ovarian cysts, menopause, and some rare medical conditions can give misleading results.
8. While pregnancy is the most likely reason for the presence of HCG in urine, elevated HCG concentrations unrelated to pregnancy have been reported in some patients, for example, trophoblastic disease and certain non trophoblastic neoplasms.
9. Alcohol may interfere the test result. It is not recommended using the test after drinking.
10. 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

Analytical Sensitivity: No less than 10mIU/ml

Analytical Specificity: The test results show negative for the 500mIU/ml hLH, 1000mIU/ml hFSH and 1000µIU/ml hTSH specimens.

Diagnostic Sensitivity and Diagnostic Specificity: This U-TEST Pregnancy Test detects HCG at a concentration of 10mIU/ml or greater. 900 known negative urine specimens were equally divided into 6 groups. Each group of specimens (150) were spiked with HCG to the concentration of 0mIU/ml, 5mIU/ml, 15mIU/ml, 25mIU/ml, 50mIU/ml and 5IU/ml separately, calibrated against WHO 4th international standard. Each group of specimen was tested with HCG Pregnancy Test. The results from this study gave >99% agreement with the expected results.

Result	0mIU/ml	5mIU/ml	15mIU/ml	25mIU/ml	50mIU/ml	5IU/ml	Total
Positive	0	0	0	150	150	150	450
Negative	150	150	150	0	0	0	450
Total	150	150	150	150	150	150	900

Diagnostic sensitivity=100% (450/450)

Diagnostic specificity=100% (450/450)

Interference Testing: The following substances were added in HCG free and HCG spiked urine specimens. None of the substances at concentration tested interfered in the assay. For example:

Acetaminophen	0.2mg/ml	Acetylsalicylic Acid	0.2mg/ml
Ascorbic Acid	0.2mg/ml	Atropine	0.2mg/ml
Caffeine	0.2mg/ml	Gentesic Acid	0.2mg/ml
Glucose	20mg/ml	Hemoglobin	10µg/ml
Tetracycline	0.2mg/ml		

QUESTIONS AND ANSWERS

1. Q. How soon after I suspect that I am pregnant can I take the test?
A. You can test your urine as early as the first day you miss your period.
2. Q. Do I test with the first morning urine?
A. You can perform the test at any time of the day. However, your first morning urine is usually the most concentrated of the day and would have the most HCG in it.
3. Q. How do I know that the test was run properly?
A. The appearance of a colored line in the control region (C) tells you that you followed the test procedure properly and proper amount of urine was absorbed.
4. Q. Can test results be interpreted after more than five minutes?
A. No. test results must be read within 5 minutes. Though a positive result should not change for several days, a negative result may change to a false positive within minutes after the end of the testing period, which would not be an accurate reading.

REFERENCES

[1] Robert D. Nerenz, Haowei Song, and Ann M.Gronowski. Screening Method to Evaluate Point-of-Care Human Chorionic Gonadotropin (hCG) Devices for Susceptibility to the Hook Effect by HCG β Core Fragment: Evaluation of 11 Devices. Clinical Chemistry 60:667-674(2014)

[2] Berger P, Paus E, Hemken PM, Sturgeon C, Stewart WW, Skinner JP, Harwick LC, Saldana SC, Ramsay CS, Rupperecht KR, Olsen KH, Bidart JM, Stenman UH. Candidate epitopes for measurement of hCG and related molecules: the second ISOBM TD-7 workshop. Tumor Biol. (2013) 34:4033-4057

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