GIMA
PROFESSIONAL MEDICAL PRODUCTS

## HCG PREGNANCY RAPID TEST MIDSTREAM (URINE)

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

### INTENDED USE
The hCG Pregnancy Rapid Test Midstream (Urine) is a rapid chromatographic immunoassay for the qualitative detection of human chorionic gonadotropin in 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 Midstream (Urine) is a rapid test that qualitatively detects the presence of hCG in urine specimen at the sensitivity of 20mIU/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 Midstream 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 Midstream 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 immersing the test midstream in a urine specimen and observing the formation of colored lines. The specimen migrates 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.

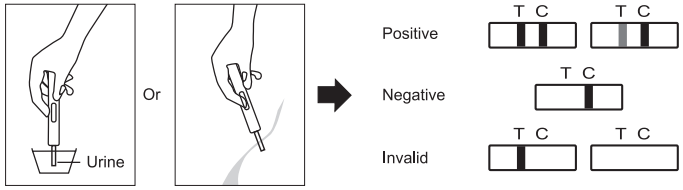
### PRECAUTIONS
Please read all the information in this package insert before performing the test.
1. For professional in vitro diagnostic use only. Do not use after the expiration date.
2. The test should remain in the sealed pouch until ready to use.
3. All specimens should be considered potentially hazardous and handled in the same manner as an infectious agent.
4. 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 Midstreams
• Package insert
**Materials required but not provided**
• Specimen collection containers
• Timer

### DIRECTIONS FOR USE
1. Remove the midstream from the foil pouch and test it immediately in one hour.
2. Take down the cap of the midstream, hold the midstream so as to place the absorbent tip in the urine stream or place the absorbent tip (≥2/3) in urine in a clean cup for **at least 15 seconds**.
3. Cover the cap on the testing midstream, then lay down the product on a clean and stable desk, start the timer immediately.
4. **Read the result at 3 minutes**; don't interpret the result after 10 minutes.




### INTERPRETATION OF RESULTS
(Please refer to the illustration above)
**POSITIVE: Two distinct 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 the donor may be pregnant.
**NEGATIVE: One colored line appears in the control line region (C).** No line appears in the test line region (T). This means the donor may be 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). Insufficient specimen volume or incorrect procedural techniques are the most likely reasons for control line failure. Read the directions again and repeat the test with a new test. If the result is still invalid, contact the manufacturer.

### 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 negative 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 20-250mIU/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 Midstream is a preliminary qualitative test, therefore, neither the quantitative value nor the rate of increase in hCG can be determined by this test.
2. Drugs which contain hCG (such as Pregnyl, Profasi, Pergonal, APL) can give a false positive result. Alcohol, oral contraceptives, painkillers, antibiotics or hormone therapies that do not contain hCG should not affect the test result.
3. 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.
4. 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.
5. 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.
6. 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.
7. 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.

### EXPECTED VALUE
Negative results are expected in healthy non-pregnant women and healthy men. Healthy pregnant women have hCG present in their urine and serum specimens. The amount of hCG will vary greatly with gestational age and between individuals. The hCG Pregnancy Rapid Test Midstream for Urine has a sensitivity of 20mIU/ml, and is capable of detecting pregnancy as early as 1 day after the first missed menses.

## *PERFORMANCE CHARACTERISTICS*

**Accuracy**

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

| **Method** | | **Other hCG Rapid Test** | | **Total Results** |
|---|---|---|---|---|
| hCG Pregnancy Rapid Test Midstream | Results | Positive | Negative | |
| | Positive | 231 | 0 | 231 |
| | Negative | 0 | 377 | 377 |
| Total Results | | 231 | 377 | 608 |

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

**Sensitivity and Cross-Reactivity**

The hCG Pregnancy Rapid Test Midstream detects hCG at a concentration of 20mIU/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 (20mIU/ml hCG) specimens showed no cross-reactivity.

**Precision Intra-Assay**

Within-run precision has been determined by using 10 replicates of four specimens containing 20mIU/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 four specimens of 20mIU/ml, 100mIU/ml, 250mIU/ml and 0mIU/ml of HCG in 10 independent assays. Three different lots of the hCG Pregnancy Rapid Test Midstream 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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7. Braunstein GD, JL Vaitukaitis, PP Carbone, GT Ross Ectopic production


## *Index of Symbols*

| | | | |
|---|---|---|---|
| | Caution: read instructions (warnings) carefully | | Consult instructions for use |
| | Manufacturer | EC REP | Authorized representative in the European community |
| REF | Product code | LOT | Lot number |
| CE | In vitro diagnostic medical device compliant with Directive 98/79 / EC | Σ | Contains sufficient for “n” tests |
| IVD | In vitro diagnostic medical device | | Expiration date |
| | Disposable device, do not re-use | | Don’t use if package is damaged |
| | Temperature limit | | |

REF **FHC-F103 (29090)**


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CE

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IVD

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