

# Sperm Concentration Rapid Test Cassette

## Package Insert

### For Self-testing

For *in vitro* diagnostic use only.

#### 【INTENDED USE】

The Sperm Concentration Rapid Test is biochemical assay for *in vitro* qualitative estimation of sperm concentration in human semen as an auxiliary aid in clinical diagnosis of the infertility and/or pregnancy planning by self-evaluation of sperm concentration above or below the required concentration for successful pregnancy.

#### 【PRINCIPLE】

This product uses the inert glass fiber membrane with high water absorption and the pore size of less than 0.5μm to filter the semen. Sperm cells are trapped on the surface of the first layer of the membrane, and staining solution is used that can dye sperm cells. The darker the colour of Well A, the higher the sperm concentration. If the colour of test well A is lighter than the standard colour of reference Well B, it means that the concentration of sperm is less than 15 million/ml. If the colour of test well A is darker than the standard colour of reference Well B, it means that the sperm concentration is greater than 15 million/ml. Sperm concentration of 15 million/ml is the minimum expected sperm concentration level for pregnancy.

This kit is designed to be used for *in vitro* qualitative estimation of the sperm concentration of human semen. Essentially this means the test will determine if the number of sperms is at an adequate level for conception to occur with sexual intercourse, subject to female partner's ovulation in time. A low sperm concentration would indicate less likelihood of conception. It would be advisable to see your medical professional who can advise what can be done to improve the sperm concentration.

#### 【PRECAUTIONS】

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

- This kit can only be used as an *in vitro* diagnostic test using human semen as specimen and cannot be used with specimens of other body fluids.
- The kit should be stored at room temperature, avoiding areas of excess moisture. If the foil packaging is damaged or has been opened, please do not use.
- Once the test card's package is opened, it should be used as soon as possible, to avoid being exposed to the air for long periods which could result in the test not working correctly.
- This test kit is intended to be used as a preliminary test only and repeatedly abnormal results should be discussed with doctor or medical professional.
- When adding specimens, staining solution and washing solution, try to avoid any bubbles as this could adversely affect the test results.
- Make sure you correctly follow the "time" instructions when carrying out the test and observing the results.
- The kit must not be frozen or used after the expiry date printed on the outer foil.
- Do NOT remove the light-yellow liquefying powder from the bottom of the sample cup. It is supposed to be in there as it will help the semen to liquefy.

#### 【MATERIALS】

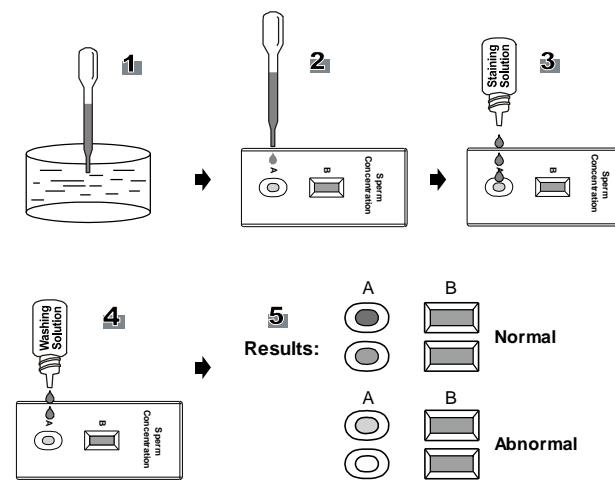
##### Materials Provided

- Test cassette
- Collection cup
- Workstation
- Timer
- Package insert
- Staining solution
- Procedure card
- Dropper
- Washing solution

##### Materials required but not provided

- Once the semen is soaked into Well "A", add three drops of the blue staining solution to Test Well "A". Let it soak for 1-2 minutes.
- Now add two drops of the transparent washing solution to Test Well "A", and let it soak for 1-2 minutes, and then read the results immediately.
- Read the colour of Test Well "A", comparing the colour of Test Well A to Reference Well B. The darker the colour of Well A, the higher the sperm concentration.

(Please refer to the Procedure Card provided)



#### 【READING THE RESULTS】

(Compare the colour of test well A to reference Well B)

##### NORMAL

The colour of test well A is darker than or the same as the standard colour of reference Well B. It means that the sperm concentration is greater than or equivalent to 15 million/ml. The likelihood of conception is high with this sperm concentration, subject to other conditions, such as ovulation being favorable.

##### ABNORMAL

The colour of test well A is lighter than the standard colour of reference Well B. It means that the sperm concentration is less than 15 million/ml. This is known as oligospermia. The likelihood of conception is less with this sperm concentration and further medical consultation is recommended.

**NOTE:** If well A is colourless, it means the sperm concentration is less than 5 million/ml or zero. This condition is known as severe oligospermia or azoospermia. If you are unsure of the result or you feel the result is inaccurate, you should repeat the test using the second test that is included in the pack but make sure you do not ejaculate through any sexual activity for 6 days before carrying out the second test. If the second test is still abnormal, you should discuss the results with your doctor or medical professional.

#### 【LIMITATIONS】

1. *In vitro* qualitative estimation of sperm concentration in human semen.
2. Sperm concentration is just one of the important tests for fertility. But other tests of semen like motility and morphology as well as ovulation in females are also important. For the cases of infertility, it is recommended that other tests are also taken in consideration.

#### 【EXTRA INFORMATIONS】

1. **Question:** Why the time is 15 minutes before the semen being taken out from the semen collecting cup for test, and the storage time after sampling does not exceed 12 hours?

**Answer:** The fresh semen is viscous, and normal semen needs to be incubated for 30-60 minutes at 37°C to liquefy completely. Only in liquid state, the semen can be used for test, because the viscous semen cannot completely pass the membrane of the test well. The light-yellow liquefying powder at bottom of the semen collection cup can make the semen liquefy quickly within 15 minutes. If the storage time of sperm specimen is too long, it may cause lysis of sperms, which may affect accuracy of the results.

2. **Question:** How long do the semen and staining solution need to be in the test well?

**Answer:** In general, they may pass membrane of the test well within several seconds, if they cannot pass the membrane completely after 5 minutes, and which shows that the

semen has not liquefied completely, or density of the sperm is too high, and we must repeat the test. The reasons of semen non-liquefaction may be that the enzyme in the semen collection cup becomes invalid or the user does not use the semen cup correctly or there is some other cup used for semen collection.

#### 3. **Question:** Is the solutions used for test safe?

**Answer:** The solution is safe, and which is a synthetic dye, intake of which in concentration less than 5mg/kg does not harm to human body. The concentration of the staining fluid is less than 10μg/ml.

#### 4. **Question:** Can the abnormal results show that the subject has no ability to have children?

**Answer:** Sperm concentration is one of several semen analysis tests. There are other factors that should be considered, including motility. Therefore, it is strongly recommended that you seek expert medical advice if you get an abnormal result.

#### 5. **Question:** What is the reason that may result in wrong test results?

**Answer:** Any mistake at any point of time from sample collection to test timing to non-compliance to abstinence may result in erroneous test results.

#### 【BIBLIOGRAPHY】

1. Persson BE, Ronquist G, Ekblom M. Ameliorative effect of allopurinol on nonbacterial prostatitis: a parallel double-blind controlled study. *JUro*, 1996
2. Jianhua Yang, modern male infertility diagnosis and treatment of Shanghai: Shanghai science and Technology Literature Press, 2007
3. Cheng liang Xiong, human sperm Science Wuhan: Hubei science and Technology Press, 2002
4. China Biological Products Standardization Committee of Chinese requirements of biological products 2000 ed. Beijing: Chemical Industry Press, 2000

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