SemenVit

FOR PROFESSIONAL USE ONLY

Application

This SemenVit kit is used to examine the motility and vitality of sperm. It is particularly important in semen samples with less than 40% of the forward moving (motile) sperm.

Principle

The determination of the vitality of sperm cells is judged by the integrity of the sperm membrane. The dye exclusion method is based on the fact that dead sperm with damaged plasma membrane absorb certain dyes.

Storage and stability

Store at 2-8 °C.

Time: 24 months from date of manufacture

Content

- Reagent 1 20 ml
- Reagent 2 230 ml

Required utensils

- Gloves
- Immersion oil
- Microscope
- Native ejaculate or washed sperm (20-50 µl)
- Slides
- Paper towels
- Pipettes and tips (10-100 µl)
- Test tubes (1.5 or 2 ml)
- Test tube holder

Procedure

This test should begin immediately after liquefaction of the semen sample, preferably after 30 minutes and not later than 60 minutes to avoid negative influences:

1. Pipette 20-50 µl sperm ejaculate in a test tube.
2. Add 2 drops of reagent 1, mix (avoid foaming) and incubate at room temperature for 30 seconds.
3. Add 3 drops of reagent 2 and mix again.
4. Transfer 10 µl of the mixture to a slide, smear the mixture with a cover slip and let air dry.
5. Evaluate the sperm with immersion oil at 1000x magnification.

Evaluation

Vital sperm appear colourless, transparent or light pink; dead or not viable cells are stained red. Sometimes in sperm within the coloured neck region and not coloured head and flagellum are observable- This caused by damage to the membrane and these sperm are classified as vital.

Count 200 cells and distinguish between vital sperm from dead sperm. The total number of membrane-intact sperm is of biological significance. The value is determined by multiplying the total number of sperm in the ejaculate by the percentage of membrane-intact cells.

Total number of vital sperm =
Total number of sperm x percentage vital sperm

Gi182/V1

Planer Limited
110 Windmill Road, Sunbury-On-Thames
Middlesex TW16 7HD, United Kingdom
A Hamilton Thorne Company

Tel: +44 (0)1932 755 000
enquiries@planer.com
www.planer.com

Manufactured by
ANTIGENES GmbH
Labordiagnostika
Römerstraße 20-22
D-58332 Schwelm, Germany

Tel.: +49 2336 9154958
info@antigenes.de
www.antigenes.de

Example

Total number of sperm in ejaculate: 20 Million Percentage of vital sperm 55% or 0.55, respectively

Total number of vital sperm = 20 Million x 0.55 = 11 Million

Vital sperm are not necessarily motile. Therefore, it is of clinical importance, whether immotile sperm are living or dead cells. Test results should be made in connection with the evaluation of the motility of the same semen sample. Vital but immotile sperm may have structural defects in the flagellum.
A high number of immotile and dead sperm (necrozoospermia) may indicate a dysfunction of the epididymis. The lowest reference value for the vitality of the sperm is 58% (WHO 2010).

Safety information / precautions

- All semen samples should be considered potentially infectious.
- Handle all samples as if they are HIV or hepatitis infected material.
- When working with samples and reagents always wear protective clothing (gloves, gowns, eye /face protection).
- Reagent 1 is containing eosin Y and reagent 2 is containing nigrosine. Both substances are not classified as toxic

References

1.Chemes HE, Rawe YV (2003) Sperm pathology: a step beyond descriptive morphology. Origin, characterization and fertility potential of abnormal sperm phenotypes in infertile men. Human Reproduction Update 9:405-428

2. Correa-Perez JR et al. (2004) Clinical management of men producing ejaculates characterized by high levels of dead sperm and altered seminal plasma factors consistent with epididymal necrospermia. Fertility and Sterility 81:1148-1150

3. WHO (2010) Laboratory manual for the examination and processing of human semen. 5th edition

4. Wilton LJ et al. (1988) Human male infertility caused by degeneration and death of sperm in the epididymis. Fertility and Sterility 49:1051-1058

Gi182/V1

Planer Limited
110 Windmill Road, Sunbury-On-Thames
Middlesex TW16 7HD, United Kingdom
A Hamilton Thorne Company

Tel: +44 (0)1932 755 000
enquiries@planer.com
www.planer.com

Manufactured by
ANTIGENES GmbH
Labordiagnostika
Römerstraße 20-22
D-58332 Schwelm, Germany

Tel.: +49 2336 9154958
info@antigenes.de
www.antigenes.de