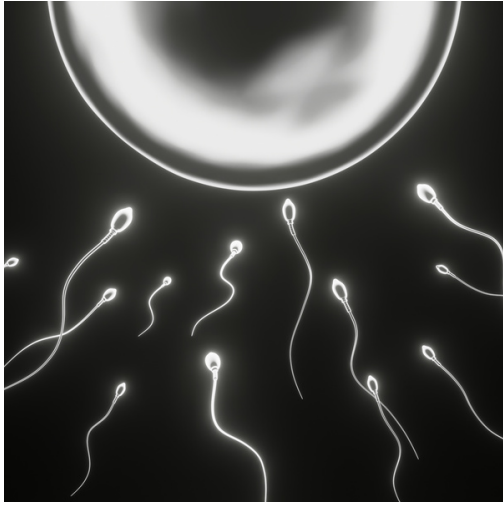




## SPERM DNA FRAGMENTATION KIT

### UNLOCK THE FUTURE OF PARENTHOOD WITH SPERM DNA FRAGMENTATION KIT



#### What is Sperm DNA Fragmentation Kit?

The Sperm DNA Fragmentation technique can distinguish between functional and non-functional spermatozoa based on their DNA integrity, identifying which ones are viable for fertilization. This kit evolutionizes the assessment of sperm quality by complementing traditional sperm analysis. While conventional semen analysis focuses solely on sperm concentration, motility, and morphology, it overlooks a crucial parameter: the integrity of the DNA molecule. Interestingly, 15% of men classified as infertile have normal sperm analyses, underscoring the need for a more comprehensive evaluation. Sperm DNA fragmentation kit empowers medical professionals to make informed decisions about the most suitable assisted reproduction techniques for each couple. Employs a controlled DNA denaturation process to facilitate the removal of proteins from each spermatozoon. This method results in the formation of halos composed of DNA loops at the head of healthy sperm, a feature absent in sperm with damaged DNA.

#### Key Features of Sperm DNA Fragmentation Kit

- **Easy & Quick Assessment:** Say goodbye to complex laboratory equipment. Our kit provides a hassle-free, rapid measurement of Sperm DNA Fragmentation.
- **Comprehensive Insights:** Complement traditional semen analysis with specific data on genetic material quality for a holistic evaluation.
- **Cost-Effective:** Avoid expensive and frustrating IVF procedures. Assess Sperm DNA Fragmentation beforehand to guide fertility treatment.
- **Vital for Success:** The integrity of paternal DNA is critical for both natural conception and assisted reproduction, ensuring the best chance of a viable pregnancy.

#### Who can use Sperm DNA Fragmentation Kit?

Medical professionals rely on information provided by MenidiMedica Biotech solutions as an essential addition to the standard

semen analysis when initiating treatment. Sperm DNA damage is a complex process influenced by various factors. Therefore, it is particularly recommended for the following groups:

1. Couples who have experienced recurrent miscarriages.
2. Couples facing unexplained infertility lasting more than six months.
3. Men aged over 40.
4. Individuals who frequently wear tight-fitting clothing.
5. Men with a history of cancer.
6. Men undergoing treatment with prescription medications.
7. Men exposed to harmful substances or toxins.
8. Men who have had urogenital infections.
9. Individuals with unhealthy lifestyle habits, including smoking, physical inactivity, poor dietary choices, or obesity.
10. Cases where the quality of embryos during subsequent cycles of egg donation is suboptimal.
11. Unexplained male infertility.

Natural factors such as improper maturation and oxidative stress can lead to disruptions in spermatozoa production within the testicles, resulting in fertility challenges.

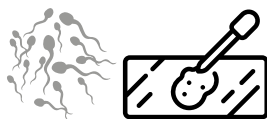
#### Why Choose Sperm DNA Fragmentation Kit?

- **Accurate Evaluation:** Obtain precise results with high-contrast halo images using standard bright-field microscopy after Wright staining.
- **Sperm Identification:** Preserve sperm tails for easy differentiation from other cell types and identification of degraded sperm cells with varying halo sizes.
- **User-Friendly:** A simple protocol involving acid treatment and lysis solution makes it easy to assess DNA integrity.
- **Functional vs. Non-Functional:** Identify which spermatozoa are functional for fertilization and distinguish them from non-functional ones.

#### How Does It Work?

Our cutting-edge technique is based on the principle that sperm with fragmented DNA do not display the characteristic halo of dispersed DNA loops found in sperm with intact DNA after acid denaturation and nuclear protein removal. Fresh semen samples should be collected in a sterile recipient. The sperm DNA fragmentation assay should be performed immediately once the sperm sample has been obtained or thawed after cryopreservation.

a. The spermatozoa are placed in an agarose microgel and evenly distributed onto a slide.



b. The sample is subjected to acid denaturation and a lysis solution as part of the treatment process.



c. After treatment, the sample undergoes dehydration, staining, and subsequent microscopic visualization for examination of fragmented and non-fragmented DNA.

d. To calculate the percentage of sperm with fragmented DNA (SDF), count SDF sperm based on specified criteria and divide by the total sperm counted (N), then evaluate the SDF percentage in relation to established thresholds for SDF levels.



#### Storage Conditions

Upon receipt, please store the kit in a location with a temperature range between 2°C and 30°C, and ensure it is shielded from exposure to light. Once the kit is opened, it maintains stability for a period of 12 months.

#### Description of kit reagents

Every kit contains the necessary to perform 10 assays. The components are:

- Agarose Tubes; 10 units
- Denaturant Agent 1 mL screw tube
- Lysis Solution, six 20 mL bottle each

#### Sperm classification

In each sample, a minimum of 300 spermatozoa should be counted, following the specified criteria for categorization:

Spermatozoa without DNA fragmentation:

- Spermatozoa with big halo: Sperm with halos whose width is equal to or greater than the diameter of the core (referred to as "Big halo").
- Spermatozoa with medium-sized halo: Sperm with halos sized between those with large halos and those with very small halos (referred to as "Medium halo").
- Others: Cells referred to as "others" that do not correspond to spermatozoa, distinguished by the absence of a tail. These cells must not be included in the estimation of the frequency of sperm with fragmented DNA.

Spermatozoa with fragmented DNA:

- Spermatozoa with small halo: Sperm displaying halos with a width equal to or smaller than 1/3 of the diameter of the core (referred to as "Small halo").
- Spermatozoa without halo: Sperm with no visible halo (referred to as "Without halo").
- Spermatozoa without halo and degraded: Sperm that lack a halo and exhibit irregular or weak staining of the core (referred to as "Degraded").

#### Order Your Sperm DNA Fragmentation Kit Today!

Make the right choices on the path to parenthood. The Sperm DNA Fragmentation Kit empowers medical professionals with the knowledge needed for fertility journey.

Contact us now to order your kit. We strive for a better, safer world for us and our children.