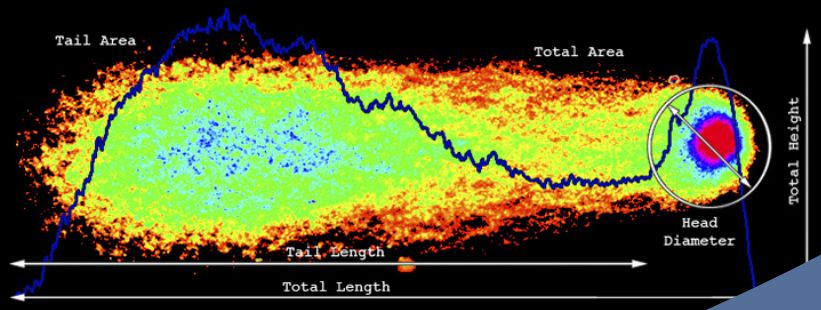
CometFertility

The most advanced analysis of sperm DNA fragmentation



Absence of pregnancy · Implantation failure · Recurrent pregnancy loss

Did you know?

Different types of sperm DNA fragmentation affect reproduction in distinct ways

- **Advanced analysis**
- **Internal quality control**
- **Personalized reports in different languages**
- **Counseling in reproduction**

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Latest advances in sperm DNA fragmentation analysis

Sperm DNA damage is increasingly viewed as a key factor for infertility and failed pregnancies [1,2]. Two different types of DNA damage exist: single-strand and double-strand DNA breaks, each with a distinct impact on fertility. Single-strand DNA breaks are typically so **extensive**, that they impair correct conception. In contrast, double-strand DNA breaks occur in **localized regions**, and do not impede fertilization but cause problems later on such as increased risk of miscarriage [3-5].

> Distinguishing the different types of sperm DNA damage leads to a more accurate diagnosis.

What is CometFertility?

CometFertility is the **only test** able to distinguish with a high sensitivity single-strand and double-strand sperm DNA damage [6]:

- High levels of single-strand DNA breaks indicate infertility.
- High levels of double-strand DNA breaks are associated to miscarriages.

Who can benefit from CometFertility testing?

PATIENTS SUFFERING FROM:

- Inability to achieve pregnancy
- Recurrent miscarriage
- Poor embryo quality
- Failed assisted reproduction cycles

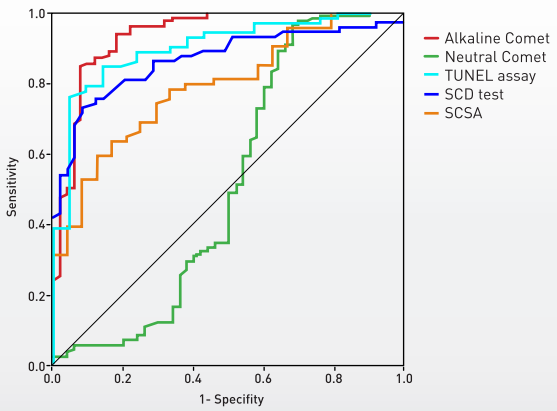
SEMEN BANKS:

- Selection of semen donors

30%
of semen samples in sperm banks carry double-strand DNA damage

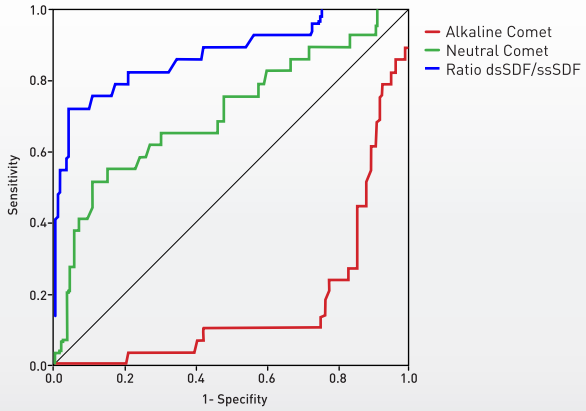
> Double strand sperm DNA fragmentation is associated with recurrent miscarriages.

Prediction of male factor-dependent pregnancy



Single-strand DNA breaks correlate with the inability to conceive, and are detected under the denaturating conditions of the **alkaline CometFertility** assay. Compared to other sperm DNA integrity techniques (TUNEL, SCD, SCSA), the alkaline CometFertility predicts best male infertility (sensitivity 0.85, specificity 0.92) [4].

Prediction of male factor-dependent miscarriage risk



Double-strand DNA breaks can be detected by the **neutral CometFertility** assay. Risk of miscarriage is associated with low single-strand, but high double-strand DNA damage levels in men. The ratio of double-strand to single-strand DNA damage therefore effectively predicts male factor-dependent miscarriage (sensitivity 0.72, specificity 0.96) [3].

References

[1] Aitken & De Iuliis, Molecular Human Reproduction, 2010; [2] Zini et al., Human Reproduction, 2007; [3] Ribas-Maynou et al., PLoS One, 2012; [4] Ribas-Maynou et al., Andrology, 2013; [5] Ribas-Maynou et al., Molecular Human Reproduction, 2014; [6] Ribas-Maynou et al., Human Reproduction, 2012.