

# Nidacon News

The news letter from your ART supplier • No 1 • 2015

## ▶ PureSperm® SpeediKit, now a 10-patient kit

PureSperm® Speedikit is a quick and efficient alternative for sperm preparation using a single layer of PureSperm® colloid followed by rinsing the sperm with PureSperm® Wash.

The price per preparation will be lower which is beneficial for our customers.

The kit is designed for the smaller clinic. All you need is a centrifuge and pipettes. It is very easy to use even if you are not an embryologist.



Until now the kit has consisted of PureSperm® colloid and PureSperm® Wash for

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5 patients, already dispensed in centrifuge tubes, plus semen collection tubes.

We have now removed the semen collection tubes and added more single-layer/wash tubes which results in a kit for 10 patients instead of 5. The price per preparation will be lower which is beneficial for our customers.

This new kit has the same long shelf life, 12 months. It can be stored at room temperature all the time.

## ▶ Ovulation affects your shopping and choice of men

New research from The University of Texas at San Antonio (UTSA) College of Business suggests women seek more options in dating partners near ovulation – when they are most fertile – which may lead them to also seek a greater variety of products and services.

"Just like a fisherman casting a wide net, ovulating women seek to cast a wide net into the dating pool and expand the number of potential suitors they have to choose from", says Kristina M. Durante, UTSA marketing assistant professor and lead investigator of the study. "And, this desire for variety in men at ovulation triggers a variety seeking mind-set that carries over into desire for variety in products."

Forthcoming in the April 2015 issue of the Journal of Consumer Research, "Play-

ing the Field: The Effect of Fertility on Women's Desire for Variety" provides some of the first evidence that choice behaviour in our personal relationships may influence choice behaviour in the market-place. Durante and then UTSA visiting assistant professor Ashley Rae Arsena focused their predictions on previous research that finds that ovulation can shift women's mating psychology.

Durante and Arsena conducted four studies that included 553 female participants in the U.S. between 18 and 40 years of age who were not pregnant or taking hormonal contraceptives. The studies found that women's desire for new options in men

triggered a variety seeking mind-set that led women to also desire variety in products. Loyalty to a romantic partner reduced the desire for product variety, suggesting that loyalty in romantic relationships can translate to brand loyalty.



**Journal Reference** 1. Kristina M. Durante, Ashley Rae Arsena. **Playing the Field: The Effect of Fertility on Women's Desire for Variety.** Journal of Consumer Research, 2014; 000 DOI: 10.1086/679652

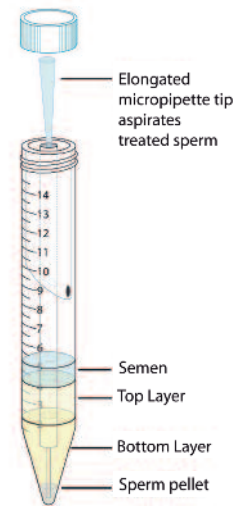
## ▶ ProInsert™ – new version

From the beginning of May, the content in each pouch of ProInsert™ will change. The washing tube and the extra pipette will be removed.

Most of you already have tubes that can be used for washing and the extra pipette has also been considered expendable by

many users. This change has made it possible for us to lower the price and hopefully make the product affordable for more users. The price is now 29 Euros for a package of 5 instead of 35. The new price was actually in place on the 1st of January.

This product not only minimizes the risk for contamination of the pellet after centrifugation, it also makes it easier to prepare the gradient and will save you a lot of time.



## ▶ Efficacy of density gradient separation on the preservation of sperm DNA integrity.

*Gabriella Donà, Alessandra Andrisani, Decio Armanini, Luciana Bordin.*  
*University of Padova, Italy*

Sperm preparation represents one of the most delicate steps in the assisted reproduction techniques (ART) as reported in a recent study which compared the effect of different commercial buffers according to their capacity to induce acrosome reaction (AR), paying particular attention to cell survival at the end of the capacitating incubation. Interestingly, the buffer PureSperm®Wash (PSW) from Nidacon was particularly suitable for sperm preparation and incubation, since cells reaching the AR was almost three-five fold compared with results obtained with other commercial buffers.

PSW also preserved cells from apoptosis (only 3.5±1.4% of total cells were not viable) compared with the great number observed with the other ones study (Andrisani et al, 2014).

Besides inducing AR, sperm preparation must maintain the integrity of DNA within the cell, avoiding DNA degeneration/fragmentation. Critical step for preserving DNA integrity seems to be sperm isolation by gradient centrifugation, controversially accused to be one of the

inductors of DNA fragmentation (Aitken et al., 2014). For this reason we evaluated sperm DNA integrity after PureSperm (PS) gradient (40/80) centrifugation in samples from 8 healthy volunteers. Preliminary results showed that PS gradient and PSW incubation preserved sperm nucleus as indicated by the low response to propidium iodide (PI) both at T0 and after 1h in capacitating buffer. On the other hand, when an aliquot of the same sperm preparation was incubated in PSW in the presence of H<sub>2</sub>O<sub>2</sub>, PI labelling was clearly visible, thus confirming that ROS-induced oxidative assault dramatically increases nuclear envelop degeneration (Fig. 1).

Many comparisons have been made between the two most utilised techniques for sperm separation.

separation/incubation methods (Xue et al., 2014). In addition, PS gradient, correctly utilised as recommended by the manufacture, completely

prevents sperm contamination by other cells (leucocytes, immature sperm, debris et al.) as evidenced by our and other (Aitken et al., 2014) studies, thus guaranteeing the best preparation for ART.

Controversial opinions have been recently raised among those who deny (De Lamirande et al., 2012) and those who assert that the use of gradient centrifugation may induce DNA fragmentation due to potential contaminating compounds present in commercial solutions (Aitken et al., 2014). However, in our present and previous studies (Andrisani et al., 2014), both PS gradient and PSW prevented sperm from oxidative assault induced by ROS generation and, concomitantly, did not induce the increase of DNA fragmentation which remained at the same, or even lower, levels commonly observed with other

separation/incubation methods (Xue et al., 2014). In addition, PS gradient, correctly utilised as recommended by the manufacture, completely prevents sperm contamination by other cells (leucocytes, immature sperm, debris et al.) as evidenced by our and other (Aitken et al., 2014) studies, thus guaranteeing the best preparation for ART.

Many comparisons have been made between the two most utilised techniques for sperm separation: density gradient centrifugation and swim up centrifugation. This last has been widely demonstrated to be by far less efficacious in eliminating non-sperm components (e.g. debris, bacteria) and contaminating substances (e.g. the prostatic zinc) from the semen (Björndahl et al., 2005). In addition, swim up methods induce higher level of ROS generation in the samples (Aitken et al., 2014) thus compromising both DNA fragmentation, as indicated in the present preliminary study, and the final ability of cells to undergo AR (Donà et al., 2011).

You can find an extended version of the article and bibliography on our website [www.nidacon.com](http://www.nidacon.com)

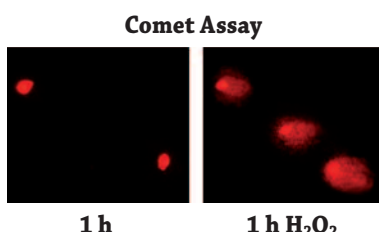


Figure 2: Evaluation of DNA damage in sperm by comet assay.

In addition, to assess DNA status the single gel electrophoresis COMET was also performed in these samples. In figure 2 COMET patterns of samples incubated in the absence or presence of H<sub>2</sub>O<sub>2</sub> were shown. Oxidative assaults, besides denaturing nuclear membrane, induced high DNA fragmentation (percentages of sperm presenting DNA fragmentation were <10% at both T0 and 1h incubation vs 60% of H<sub>2</sub>O<sub>2</sub>-treated

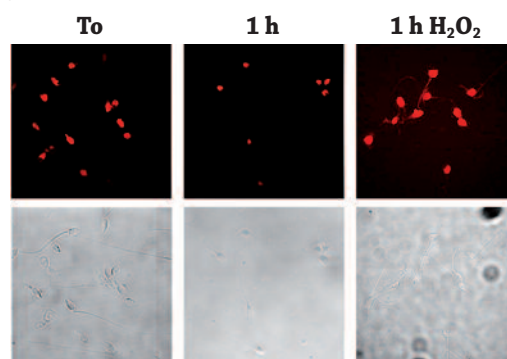


Figure 1: Evaluation of cell viability by immunofluorescence cytochemistry.

## ► New collaboration

Nidacon has previously worked with EggCentris for all our QC testing but since they have closed down that part of their business, we are now collaborating with Embryotools in Barcelona, Spain. We are certain that Embryotools will provide us with the same high quality testing as EggCentris did and they will also be a useful partner for us in our research.

in Europe from biopsied embryos selected for gender selection. Combining more than 30 years' experience in both clinical embryology and animal reproduction, they have decided to move away from the daily IVF routine when still working at IVI Barcelona

Located at Barcelona Scientific Park (PCB), one of the areas of highest scientific and technical activities in Spain, Embryotools facilities include offices and state of the

embryos, giving suppliers and users' full confidence in the materials from batch to batch.

Among other services, Embryotools offers mouse embryo assays (MEAs) with different degrees of sensitivity and information according to products' and customer's requirements. In particular, time-lapse based MEAs, allowing detection of any potential toxic effect sooner than with any other assay.

### IVF TRAINING

As a reference center in IVF training, Embryotools provides embryologists around the world the opportunity to attend advanced hands-on training courses. All sessions are run in a real IVF environment, with the most modern technologies and equipment available for hands-on, including time-lapse incubators, inverted microscopes equipped with adaptive electronic condensers, latest laser systems, micromanipulators of different brands, pH meters, temperature, CO<sub>2</sub> and humidity probes for the most advance level of QC & QA, different brands of standard and benchtop incubators.

### IVF CONSULTING

Finally, Embryotools also provides independent scientific and clinical consulting services to reproductive centers to improve results with best practices and protocols. Embryotools also assists manufacturers on developing and optimizing new products for IVF based on a long term experience and deep

understanding of IVF industry needs. Another important area of Embryotools work is related to validation of new products or devices ready to

be released to the IVF market through scientific basic studies performed using the mammalian model.

*For further information, please contact:  
Embryotools SL : [info@embryotools.com](mailto:info@embryotools.com)*



### **A presentation of the company;**

Embryotools is a privately owned company that has been founded by two embryologists, Gloria Calderón, PhD and Nuno Costa-Borges, PhD.

Both have in common a huge passion about assisted reproduction and hold an international reputation in the IVF field with several remarks along their careers. While Gloria was a member of the team that obtained the first IVF babies in Spain in the 80's, Nuno carried out projects in animal research that led to the first successfully cloned animals in Spain and the first horses

art laboratories equipped with the most advanced technology and equipment.

### QC TESTING SERVICES

Embryotools offers a wide range of specialized and advanced services for testing all type of raw materials, equipment, culture media, devices and other disposable items that are used in the IVF Laboratory. All tests are designed by PhD level scientists with several years of experience with human and mouse

*All sessions are run in a real IVF environment.*

## ► Nidacon products used for breeding world champions!

The sperm from the famous jump horse Casall, ridden by Olympic silver medalist Rolf-Göran Bengtsson, are worth gold.

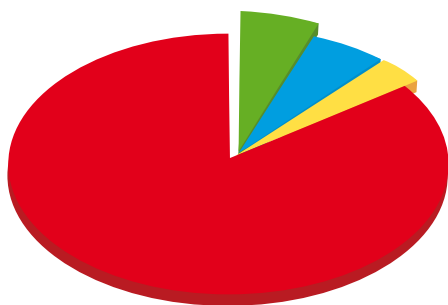
To breed offspring from this horse is a very costly and delicate business. Therefore the sperm are handled with great care. The AI-veterinarians have chosen to use Nidacon products for the handling of semen from this horse. We are very proud!



## Fun facts about Nidacon!

Do you know that of all men working at Nidacon, 57 % are left handed! In the world it's about 11%.

### Things people says when I write with my left hand



- I have a relative who is left-handed
- How can you write like that?
- Left-handers are so creative!
- Are you left-handed?

## Newsletter

Keep an eye open as **The Nidacon News** is now also available in email format.

You will now begin to receive a copy of The Nidacon News direct to your inbox. If you do not want to receive a copy via email, you can simply unsubscribe at any time using the link found at the end of the digital newsletter.



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## Frequently asked questions?

Some recent questions and answers that might be useful to you.

### What should I use for diluting PureSperm® 100?

PureSperm® Buffer is the best media to use for dilution of PureSperm® 100. It has been optimized and ionically balanced to match PureSperm®.

### Why do I need to buy a separate product, such as PureSperm® Buffer to dilute PureSperm® 100?

### Could I use PureSperm® Wash instead?

Yes, you can use PureSperm® Wash to dilute PureSperm®. However, a comparison in our laboratories has shown that you will obtain a better yield of motile sperm from using PureSperm® Buffer which has been optimized for this purpose.



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## Upcoming events

### Meet us at ESHRE 2015!

The 31st Annual Meeting of the European Society of Human Reproduction & Embryology will this year be held at FIL-International Lisbon Fair, in the beautiful capital of Portugal.

Of course Nidacon will be present at the exhibition as every year.

**Do not forget to stop by our booth at location E36 for news and product updates!**



- ESHRE annual meeting June 14-17, 2015 Lisbon, Portugal  
<http://www.eshre2015.eu/>



- Nordic Fertility Society, NFS meeting, August 3-5, 2015, Reykjavik, Island

