



How to analyze motility & concentration of “special species” sperm cell samples with AndroVision®

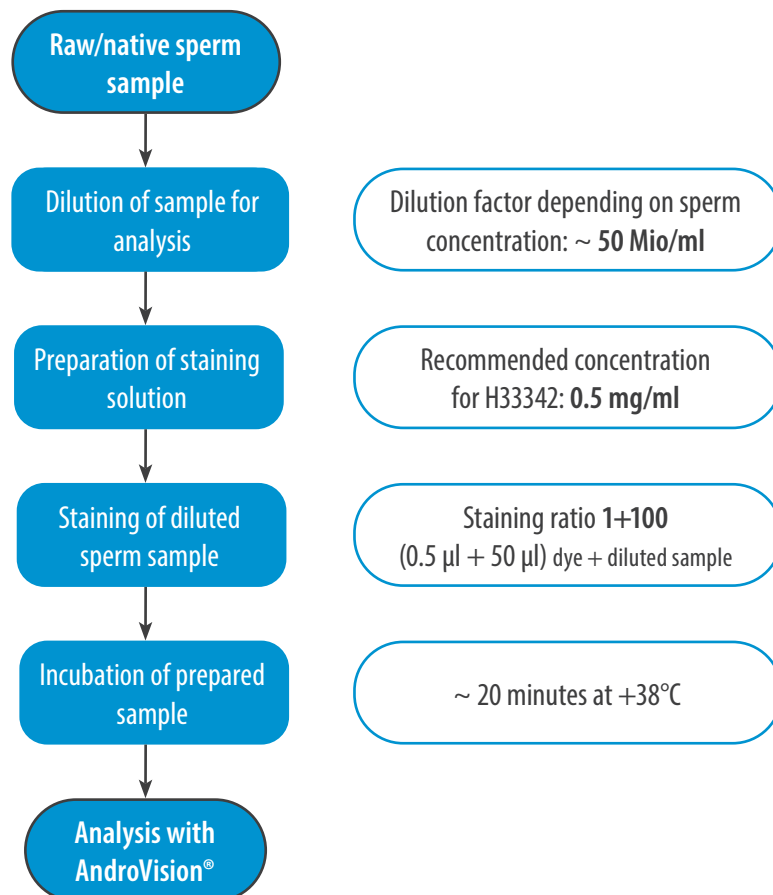
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There is an increasing demand, particularly in research, to analyze semen samples from animal species using CASA systems. However, there is still limited experience with certain species or those that present unique challenges. These species include small rodents like mice and rats, as well as honeybees, bumblebees, and even falcons.

The challenges in accurately analyzing these semen samples typically stem from the morphological characteristics of the sperm cells (such as shape and size), the methods of semen collection, and the various factors that may influence the ejaculate, including the presence of foreign cells or contamination. In addition, the degree of sperm maturity at the time of collection is another important factor.

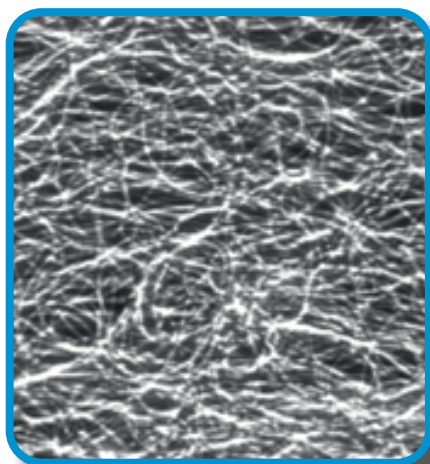
Despite the often challenging conditions for sperm recognition algorithms in AndroVision®, the system enables precise and easy analysis of these semen samples. To achieve this, we use a straightforward fluorescence staining technique with Hoechst 33342, a bis-benzimidazole dye for DNA-staining. Hoechst 33342 is excited by UV light at a wavelength of approximately 340 nm and emits light in the blue spectrum.

The following illustration shows an example of the preparation of a sample for such an analysis:

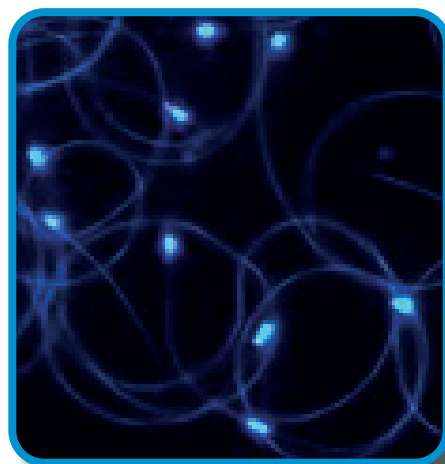


After the sample preparation as described above, the analysis with AndroVision® follows. Both the **motility & concentration analysis module** and the **quality control module** offer the option to analyze fluorescence-labeled samples. A microscope equipped with the appropriate fluorescence technology is required, which is available from Minitube.

The following images show examples of sperm samples from different animal species stained with Hoechst33342 in AndroVision®:



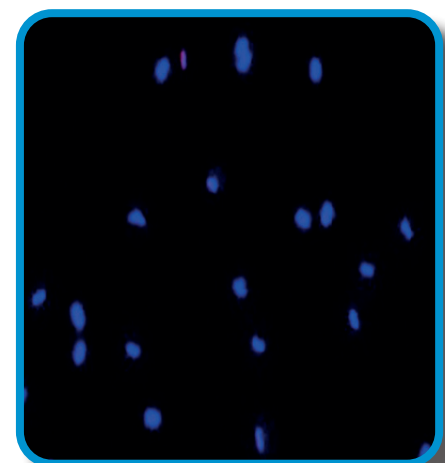
Honeybee sperm raw and unstained



Honeybee sperm diluted and stained



Mouse sperm unstained



Mouse sperm stained

If you are interested, have further questions, or would like to set up the analysis profiles for existing systems, please contact Minitube International at any time.