Sperm VitalStain™

Optimised one step staining technique for assessment of sperm vitality.

Clinical relevance

- Optimised one-step staining technique for assessment of sperm vitality in routine semen analysis.
- Vitality testing is recommended when ≥50% of spermatozoa are immotile, in accordance with WHO semen analysis guidance.

Nidacon

Principle of the method

- Uses the eosin–nigrosine technique to determine the percentage of live versus dead spermatozoa.
- Dead spermatozoa with damaged plasma membranes take up eosin and appear red.
- Nigrosine creates a dark background, improving contrast for visualisation of unstained (white) viable cells.

Composition

- Sodium chloride
- Eosin Y
- Nigrosine
- Purified water
- Formalin

These components are combined to provide optimal contrast and maintain morphology during microscopic evaluation.

Performance characteristics and microscopy

- pH range 7.3–9.5 suitable for sperm vitality assessment.
- Functional analysis validated for clear discrimination between stained and unstained spermatozoa.
- Use 100x oil-immersion objective to obtain a sharp distinction between vital and non-vital cells.

Interpretation guidelines

- Stained (red) sperm head: non-viable cell.
- Unstained (white) head on dark background: viable cell.
- If only the neck region is coloured, the spermatozoon is classified as alive.
- Recommended to count approximately 200 spermatozoa for robust classification of vitality.

Handling, safety and slide preservation

- Non-flammable; no fire or combustion hazard (MSDS available on request).
- Do not use if the tamper-evident seal is broken.
- Skin contact: rinse thoroughly with water.
- Eye contact: rinse with water for 15 minutes and contact the nearest hospital.
- Stained slides can be stored, preferably mounted and kept in darkness, for later analysis.

Reference

- *Björndahl L. et al., "Why the WHO Recommendations for Eosin–Nigrosin Staining Techniques for Human Sperm Vitality Assessment Must Change", Journal of Andrology, 25(5), 2004.*