

Introducing the Felix™ System for sperm separation in IVF clinics



The Felix™ system separates high quality ^(1, 2) sperm from raw semen by a process combining electrophoresis and size exclusion membranes.

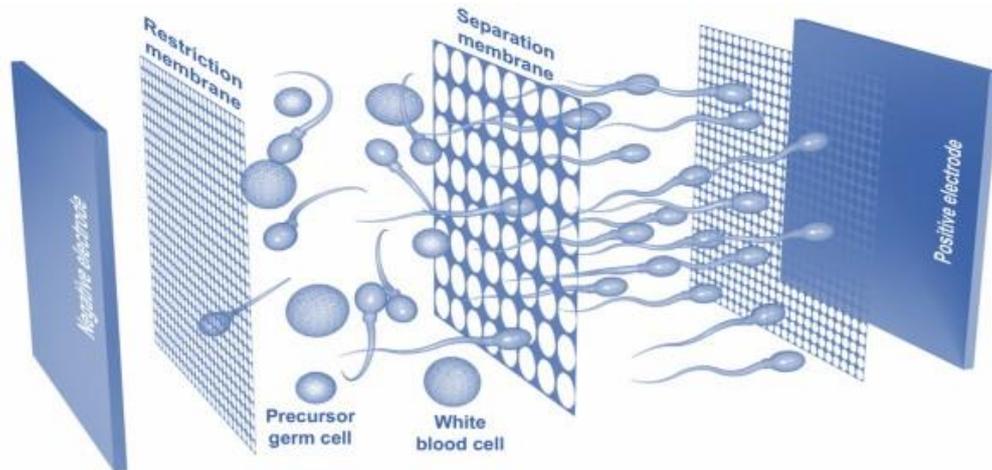
Felix™ System Features & Benefits

- Separates sperm based on its negative charge and size, independent of the sperm's motility and density
 - The high negative charge indicates a well-formed cytoskeleton and high-quality DNA ⁽³⁾
 - Size selection membranes exclude larger cells (leukocytes and dysfunctional germ cells) that commonly contaminate the human ejaculate⁽³⁾
- Works across a wide variety of semen samples - particularly those with poor sperm motility, poor sperm count and high viscosity
- Takes only 6 minutes to separate sperm from the raw semen sample
- Is designed and engineered for ease-of-use by IVF clinic personnel
- Delivers consistent quality and repeatability for sperm separations

How does the Felix™ system work?

The Felix™ system separates sperm from semen based on two principles: charge and size of sperm⁽³⁻⁵⁾.

1. The quality of sperm DNA is strongly linked with the magnitude of negative charge on the sperm cell surface⁽³⁻⁶⁾. This negative charge develops very late in the sperm maturation process, when a negatively-charged sialic acid layer forms on the sperm's outer membrane. When an electric field is applied, these more mature negatively-charged sperm are drawn towards the positive electrode (the anode)⁽⁷⁻⁹⁾.



2. The sperm can also be separated from other seminal fluid cells based on their size⁽¹⁾. Two sets of size-exclusion membranes are utilised in the Felix™ sperm processing cartridge. A membrane with pores sizes just large enough to enable sperm to pass through is used to separate the sperm from other larger undesirable cells in the semen, such as lymphocytes. Other membranes with finer pores keep the separated sperm isolated from the electrodes but allow ions to flow through them to conduct current.

References

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The Felix™ System is not included on the Australian Register of Therapeutic Goods (ARTG) and is not available for clinical use in Australia.

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