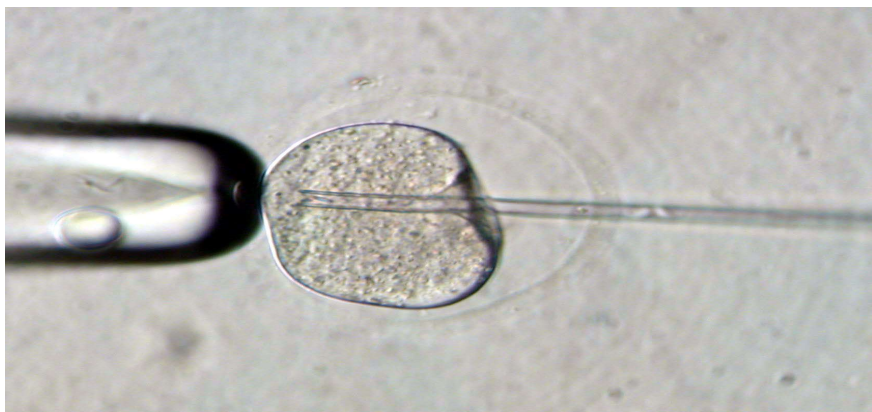


Technology Offer

CSIC/RR/007

## In vitro evaluation and selection of sperm with fertilizing capacity



**In vitro method to assess the fertilizing capacity of spermatozoa and thus select those of better quality and with the ability to penetrate the zona pellucida (ZP) of the oocyte and fertilize it.**

### Intellectual Property

PCT application filed

### Stage of development

Technology ready for testing.

### Intended Collaboration

Licensing and/or co-development

### Contact

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### Market need

The absence of an in vitro method to assess the fertilizing capacity of spermatozoa and select those of better quality and with the ability to penetrate the zona pellucida (ZP) of the oocyte and fertilize it has partly determined that the most commonly used assisted reproduction technique for fertilizing oocytes has been intracytoplasmic sperm injection (ICSI), a much more intrusive method than in vitro fertilization (IVF) and with relatively low success rates.



### CSIC solution

The method developed involves the removal of cytoplasmic material from oocytes previously isolated from bovine ovaries and heterologous in vitro fertilization between the zona pellucida-free oocytes and a sample of sperm previously isolated from a mammal. It is assessed whether the sample has fertilization capacity based on the percentage of spermatozoa from the sample that penetrates the zona pellucida (minimum 50%). Finally, when determined that the sample has fertilization capacity, the sperm that has penetrated the zona pellucida is recovered, being this optimal for use in reproductive techniques.

### Competitive advantages

- Sperm capacitation can be used as a direct predictor of fertility. As an alternative to sperm count, motility, morphology and other factors.
- The method allows for the discrimination of assisted reproduction patients that could use IVF or ICSI and helps to identify patients whose sperm samples are incapable of binding and/or penetrating the zona pellucida.