



Our services

Avantea has validated, in compliance with the 3Rs principle, a set of reproductive toxicity *in vitro* tests carried out using bovine oocytes, sperm and embryos. These tests are based on the same procedures routinely applied to obtain viable test-tube calves therefore truly mimicking *in vivo* reproductive processes.

The available *in vitro* tests include:

- *in vitro* bovine oocyte maturation test (IVM)
- *in vitro* bovine oocyte fertilization (IVF) and preimplantation development test (IVF-PED)
- *in vitro* bovine embryo culture test (IVC)

Applications

- To test disposable labware and laboratory items and media that are used to recover and culture human gametes and embryos
- To test human assisted reproduction devices and products that come into contact with the reproductive tract
- To develop grouping and read-across methods to screen chemicals, pharmaceuticals and cosmetic ingredients for potential human reproductive toxicity

Why the bovine model?

- Key human reproductive processes such as ovarian folliculogenesis, oocyte maturation and preimplantation embryo development are more closely related to bovine than to laboratory rodents
- Bovine *in vitro* tests are based on protocols that mirror those used in assisted reproduction and are therefore particularly suitable to reveal toxic effects
- No animal sacrifice is needed because bovine oocytes can be collected in large numbers from animals already destined to enter the food chain and bovine semen is commercially available as frozen product

FOR MORE DETAILS