INTRODUCTION

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In vitro embryo production through *in vitro* maturation (IVM) and fertilization (IVF) has been possible in domestic animals and *in vitro*-produced embryos have been widely utilized for splitting, sexing, and freezing in large-scale transfer programs (Thibier and Nibart, 1995). Technologies of IVM, IVF, and *in vitro* culture (IVC) of follicular oocytes in many species of mammals, including humans were reported (Fukui et al., 1997).

The study of fertilization in mammals has been advanced in recent years by the use of *in vitro* methods that allow greater control of experimental conditions. *In vitro* fertilization (fertilization outside the living organism and in an artificial environment) is a research tool to study physiological and biochemical events of fertilization and early embryonic development.

Fertilization *in vitro* of rabbit oocytes seems relatively easy to achieve, when compared with other species, although a variety of culture medium formulations have been used by different investigators. The rabbit model is one of the best defined systems for fertilization *in vitro* and is readily adaptable for studies on gamete recognition and fertilization. Short capacitation time, high rates of fertilization, and successful culture of the fertilized eggs to the expanding blastocyst stage make the system attractive.

Culture of mammalian preimplantation embryos *in vitro* has been proven to be an important research tool for reproductive biologists; this technique also is important to the commercial embryo transfer industry. The reliability of investigations on cultured rabbit embryos rests on the assumption that their development *in vitro* and *in vivo* are comparable.