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### **D-7. In vitro culture of ovarian follicles: A model for the study of regulative mechanisms of folliculogenesis and oogenesis**

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Mammalian folliculogenesis and oogenesis are complex processes presenting heterogeneous morphological and functional patterns (1). In vitro growth culture system of mammalian follicles is a suitable model for studying regulative processes occurring during oogenesis and folliculogenesis (2, 3). Follicle culture is an experimental technique designed to isolate intact follicles from systemic influences so that their metabolism can be studied scientifically (4). In vitro growth of mammalian preantral follicles is a strategy for generating mature oocytes (5). More recently, in vitro follicle culture was also applied as a biotechnological tool for setting up alternative methods for infertility treatments (6). In particular, cryopreserved in vitro grown preantral follicles may represent an useful therapeutic system to preserve or restore fertility in infertile and pre-menopausal women or in cancer patients who are likely to become sterile as a result of radio- or chemotherapy (7). In this presentation we will review our main results that we have so far obtained in the mouse model on several morphofunctional aspects in different culture conditions (8,9) at the light of the current knowledge and main future perspectives.

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