

## Abstract

Meiotic maturation of oocytes is a key phase in the development of female gametes. The natural physiology of oogenesis and meiotic maturation is currently being influenced by a number of anthropogenic environmental contaminants. These compounds include triclosan. Triclosan (5-chloro-2-(2,4-dichlorophenoxy) phenol) is an antibacterial substance commercially used in cosmetic and disinfectant products. This compound enters the human body by absorption through the skin and mucous membranes. Its presence has been demonstrated in blood, urine, breast milk, liver and adipose tissue. Triclosan is classified as an endocrine disruptor, yet its consumption continues to increase worldwide. The aim of this study is to evaluate the effect of low doses of triclosan on selected markers of meiotic maturation of porcine oocytes *in vitro*.

This work describes the negative effects of triclosan and triclosan in combination with bisphenol S on the meiotic maturation of porcine oocytes *in vitro*. Furthermore, the effect of these substances on the increased percentage of abnormal meiotic spindles and the stability of the microtubules of the meiotic spindle was demonstrated. Effects on mitochondria and epigenetic effects of triclosan were not proved. The results highlight the risks associated with the commercial use of triclosan and the need for further study of its impact on the reproductive health of animals, including humans.