

## Epidermal Growth Factor Induces Bcl-xL Gene Expression and Reduces Apoptosis in Porcine Diploid Parthenotes Developing *in vitro*

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The aim of this study was to determine the interactive effects of BSA and EGF on the viability and development of porcine diploid parthenotes developing *in vitro*. The addition of 0.1 and 0.4% BSA to the culture medium enhanced the development of 4-cell parthenotes to the blastocyst stage but EGF had no effect. However, while BSA also increased cell numbers, it did so only when EGF was also present. Either agent on its own had no effect. Similarly, apoptosis in the blastocysts was not influenced by either agent on its own but was reduced when both BSA and EGF were present. Furthermore, semi-quantitative reverse-transcriptase polymerase chain reaction (RT-PCR) revealed that EGF enhanced the mRNA expression of BclxL in the presence of 0.4% BSA but BSA and EGF alone had no effect. EGF and/or BSA did not influence Bak gene expression in the blastocyst stage parthenotes. These results suggest that BSA has both beneficial and detrimental effects on the viability of porcine diploid parthenotes developing *in vitro* and that exogenous EGF may block some of the detrimental effects of BSA, possibly by inhibiting the BSA-induced apoptosis by increasing Bcl-xL expression. This results in a net increase in cell numbers in porcine diploid parthenotes developing *in vitro*.

Key words) *EGF, BSA, Diploid parthenote, Bcl-xL*