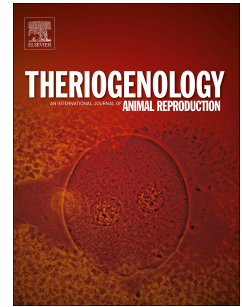


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Effects of the HDAC inhibitor scriptaid on the *in vitro* development of bovine embryos and on imprinting gene expression levels

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Effects of the HDAC inhibitor scriptaid on the *in vitro* development of bovine embryos and on imprinting gene expression levels

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Abstract. This study examines the effects of the histone deacetylation inhibitor scriptaid (SCR) on preimplantation embryo development *in vitro* and on imprinting gene expression. We hypothesized that SCR would increase histone acetylation levels, enhance embryonic genome activation, and regulate imprinting and X-chromosome inactivation (XCI) in *in vitro* produced bovine embryos. Zygotes were cultured *in vitro* in presence or absence of SCR added at different time points. We assessed cleavage and blastocyst rates as well as the quality of blastocysts through: (i) differential cell counts; (ii) survival after vitrification/thawing and (iii) gene expression analysis –including imprinted genes. Blastocyst yields were not different in the control and experimental groups. While no significant differences were observed between groups in total

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