

Nestin, a neuroectodermal stem cell marker, is expressed by bovine sertoli cells

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Abstract Nestin, an intermediate filament protein is expressed by neuroectodermal stem cells and tumors originating from cells of neuroectodermal and mesenchymal lineages. Nestin expression is prominent in embryos and remains upregulated until 3–6 weeks after birth but is downregulated afterward. Sertoli cells are nucleated somatic cells that are spanned in the seminiferous epithelium and play a critical role in supporting and controlling germ-cell development. In this context, we employed immunocytochemical, Western blot, and Flow cytometric analyses to demonstrate nestin expression in bovine sertoli cells. Immunostaining clearly showed that

sertoli cells express high levels of nestin, a result which was confirmed by Western blot analysis of purified cells. Intracellular staining of sertoli cells by flow cytometry revealed that around 74% of the cells express this marker. Given the high expression of vimentin by sertoli cells, it is proposed that the expression of nestin in these cells might be required for the formation of stable vimentin/nestin intermediate filament network. In light of these findings, it seems that sertoli cells of mature bull have potentiality of proliferation.

Keywords Bovine · Sertoli cell · Nestin

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