TSGA10 expression during embryogenesis and neural development in parallel of spermatogenesis and malignancies
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We had localised Tsga10 in mature spermatozoa tail as a fibrous sheath protein. In this study, we showed expression of it during developmental stages of mouse embryo, in adult mice brain and in some malignancies. The pattern of expression and the localisation of this protein were examined during adulthood and in developmental stages of mouse embryos. RT-PCR and immunohistochemistry study show that Tsga10 begins to be expressed in 4.5–7.5 dpc mouse embryos and continuous throughout embryogenesis. Then we showed that the Tsga10 is expressed in adult brain and in the cells with neural crest origin, olfactory epithelium, and some other postmitotic cells. Also the Tsga10 protein subcellular localisation around the nucleus and its expression pattern are consistent with a potential activity in cell cycle. It is expressed with two transcripts in sperm and whole embryos but just with the long transcript in brain embryo as a result of its exon 16 splicing. This pattern of Tsga10 gene/protein expression suggests that it may be involved in active cell division, differentiation and migrating cells, an aspect shared by the neural crest cells and other above cell phenomena. The results of the experiments in this project hypothesize the presence of Tsga10 protein wherever there is a conserved ciliary structure similar to dynein.