

## **Hedgehog pathway, microRNAs and neural stem cells maintenance**

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Staminality and stem cells differentiation programs are widely considered as an critical issue, with implications in development, in tissue regeneration and in degenerative diseases. Staminality

We have isolated neural cerebellar stem cells and induced their differentiation by using specific culture media.

Next-generation RNA sequencing on samples from stem and differentiated cells have been used to generate large-scale transcriptomes (including known genes, novel isoforms and microRNAs). From these data we have identified several genes and microRNAs that are differentially modulated during Neural cerebellar Stem Cells (NcSC) differentiation.

We describe here some of the findings highlighting a network connecting Hedgehog pathway, already described as a pathway involved in stem cells maintenance and specific microRNAs that contributes to Neural stem cells maintenance.