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numb and *numblike*in neurogenesis

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Neural progenitor cells must be kept alive throughout development to allow correct neurogenesis, but the mechanisms controlling the self-renewal of stem cells are poorly understood. In the October 31 Nature Petersen *et al.* report critical roles for *numb* and *numblike*, mammalian homologs of Drosophila numb, in maintaining progenitor populations during mouse embryogenesis (*Nature* 2002, **419:**929-934). *Numb* function in mammalian neurogeneis was examined using a transgenic mouse line in which Cre protein expression is driven by the *nestin* promoter, which is active in neural progenitor cells and somites. Mice lacking either *numb* or *numblike* in the nervous system were born normally, but the deletion of both genes together resulted in embryonic lethality (around embryonic day 11.5). In these embryos, neurons differentiate early during development, but there is a dramatic reduction in the number of proliferating precursor cells and as development proceeds the progenitor population becomes depleted. Thus, Numb proteins appear to control the self-renewal of all neural progenitor cells and could possibly play similar roles in stem-cell maintenance in other tissues.

References

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