Intrinsic factors controlling neural stem cell properties: a tale of two Sox genes

Summary

The extrinsic factors controlling the emergence of neural stem cells (NSCs) within the embryonic CNS as well as the intrinsic factors that specify and maintain their stem cell properties are not well understood. SOX2, a member of the SOXB1 subfamily of HMG box-containing transcription factors, is important for NSCs, but it is too widely expressed to be sufficient. Data will be presented to suggest that members of the SOXE subfamily, in particular SOX9, act with SOX2 to help specify NSCs. Moreover, how they respond to specific signaling molecules provides a functional link between extrinsic and intrinsic factors controlling NSC behaviour.