Msx3-iCre

This line is useful for driving Cre-mediated recombination of reporter lines, or for deleting floxed genes in the dorsal spinal cord neuroepithelium.

To generate this line, we used a 135Kb mouse genomic PAC (PAC 402-G09) isolated from library RCPI21 (Oseogawa et al., 2000). The library contains genomic DNA from a female mouse, strain 129S6/SvEvTac1.

The DNA region used included all Msx3 coding exons as well as ~64Kb upstream and ~68Kb downstream (of the Msx3 gene). We inserted the codon-improved version of Cre recombinase (iCre) (Shimshek et al., 2002) followed by an SV40 polyadenylation signal into the first coding exon of Msx3, fusing iCre to the endogenous translation initiation codon.

The modified PAC was linearized by AscI digestion prior to generating transgenic mice by pronuclear injection. In the developing mouse spinal cord, transgene expression can be detected in the dorsal half of the spinal cord neuroepithelium (Fig.1).

Generation and characterization of the mouse has been described (Fogarty, 2005; Tripathi et al., 2011). The mouse is also described here: https://www.informatics.jax.org/allele/MGI:5430776

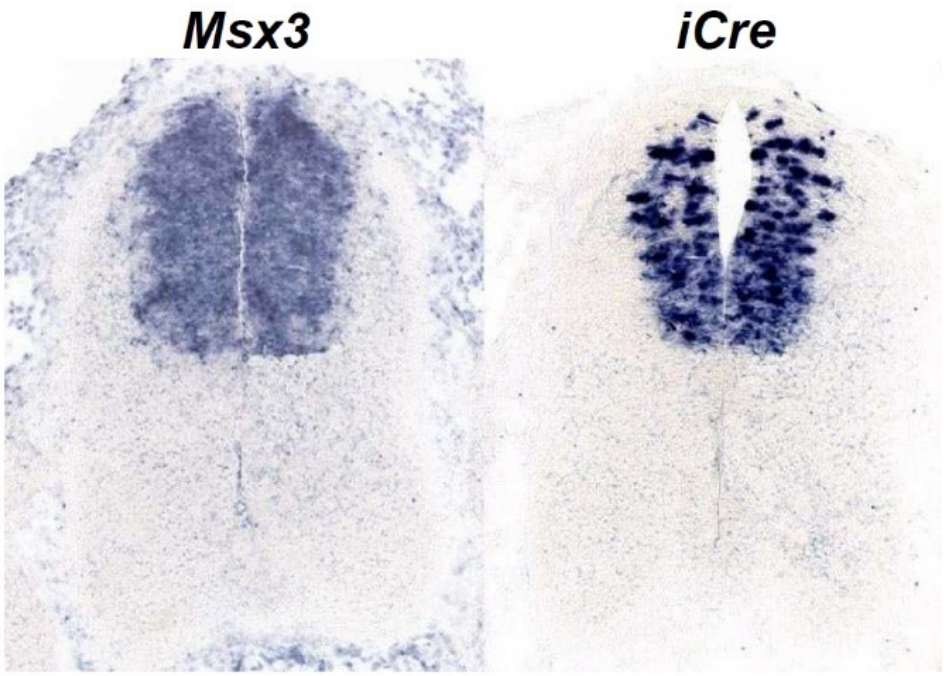

Fig. 1: *In situ* hybridization showing expression of Msx3 and iCre in the embryonic mouse spinal cord at E11.5.

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