

## **S001** Stem cell development in plants

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The stem cell populations of the shoot and root meristem are reliably maintained although cells continuously leave the meristem and are replaced by new ones. The stem cells in the shoot meristem are controlled by signaling from an underlying organizing center, expressing the *WUSCHEL* gene (Mayer et al., 1998), and the size of the stem cell population is dynamically regulated by a feedback loop between stem cells and organizing center (Lenhard et al. 2000). This signaling circuitry has the potential to act as a self-regulatory system that is integrated into a larger regulatory network to control organ formation from the shoot apex (Lenhard et al. 2002; Lenhard and Laux 2003). In the root meristem, stem cells maintenance requires short range signaling from the quiescent center (Scheres group). Here we discuss commonalities and differences between both plant stem cell niches.