EMF1, a novel protein involved in the control of shoot architecture and flowering in Arabidopsis - DTU Orbit (23/12/2018)

**EMF1, a novel protein involved in the control of shoot architecture and flowering in Arabidopsis**

Shoot architecture and flowering time in angiosperms depend on the balanced expression of a large number of flowering time and flower meristem identity genes. Loss-of-function mutations in the Arabidopsis EMBRYONIC FLOWER (EMF) genes cause Arabidopsis to eliminate rosette shoot growth and transform the apical meristem from indeterminate to determinate growth by producing a single terminal flower on all nodes. We have identified the EMF1 gene by positional cloning. The deduced polypeptide has no homology with any protein of known function except a putative protein in the rice genome with which EMF1 shares common motifs that include nuclear localization signals, P-loop, and LXXLL elements. Alteration of EMF1 expression in transgenic plants caused progressive changes in flowering time, shoot determinacy, and inflorescence architecture. EMF1 and its related sequence may belong to a new class of proteins that function as transcriptional regulators of phase transition during shoot development.

**General information**

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