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Title:	To investigate the role of an uncharacterized peptide in iron sensing and to study conserved cis-regulatory motif of STM in Arabidopsis thaliana
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Abstract:	Peptide hormones are known to play a variety of role in plants. They are involved in important plant developmental processes and in plant adaptation to abiotic stress conditions. Not many studies have been done on peptide hormones in the roots. Hence we wanted to investigate the role of one such peptide that belongs to Rapid Alkalinization Factor peptide family under iron stress conditions in roots. Iron being one of the vital nutrient for plant development is up taken from the soil by the roots. If iron is scarce in the soil the plant respond by altering its root system architecture. In the absence of iron, transcriptional pathways gets upregulated, recent studies have shown that such peptides hormones also respond to stress by binding to their receptors and cause the downstream signaling . As part of my thesis I tried to characterize the RALF peptide and checked its expression change under iron deficiency conditions. From the expression analysis it was seen that both the peptide and receptor gets upregulated under iron stress. We also wanted to check for the interaction and confirm the peptide-receptor pair. We found that the peptide and receptor both respond to iron stress and thus may have a role in iron sensing and signaling .
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