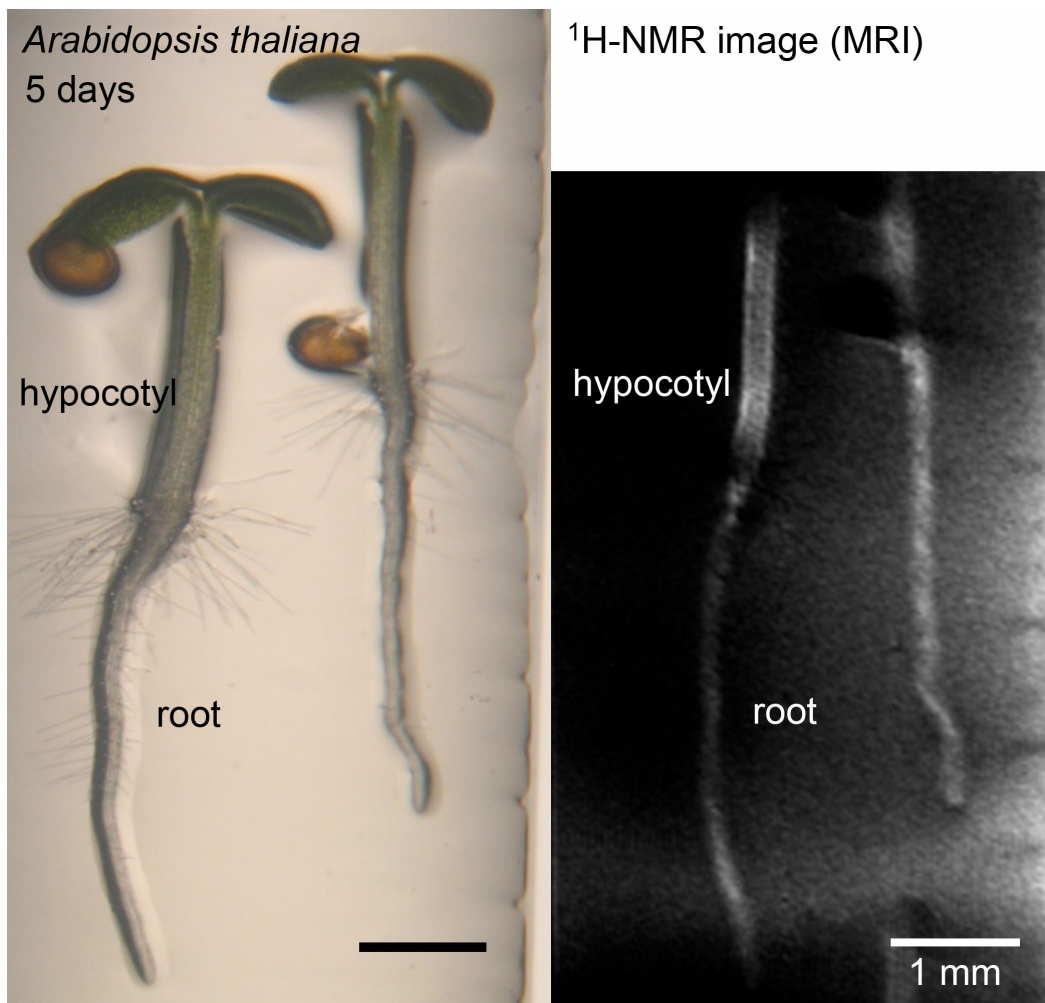


# Environmental regulation of plant growth

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Stereomicroscopic and MR images of *Arabidopsis* seedlings

Healthy plant growth depends on appropriate responses to various environmental factors such as light, temperature, drought, and pathogen attack. We are focusing on the interaction of light signaling with the signaling pathways of defense, high temperature, and drought through the researches of aquaporin and pathogenesis-related genes. Circadian clock also regulates the activities of cellular molecules and gene expression in plants to coordinate with light and temperature environments that oscillates at the 24-h period. We are employing distinct approaches such as magnetic resonance imaging (MRI), plant physiology and molecular biology to understand the various cellular processes which are diurnally controlled by an internal clock and changeable surroundings.

Keywords : *Arabidopsis thaliana*, MRI, circadian clock, high temperature stress, salt stress