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On the Cover: Physcomitrella patens is tolerant of high levels of NaCl and can maintain growth at Na+ concentrations detrimental to most vascular plants. This tolerance is suggested to be due to the expression of one or two ENA-type Na+-ATPases, which are absent in vascular plants. In this issue, Lunde et al. (pp. 1786–1796) show that PpENA1 is important under moderate salt stress. When grown in 100 mM NaCl, wild-type Physcomitrella is able to maintain a higher K+ to Na+ ratio and growth rate compared to the PpENA1 (ena1) gene knockout.

The tissue-specific expression of PpENA1 in Physcomitrella was determined by fusing the PpENA1 promoter to a GUS-reporter gene. In the nonstressed gametophyte (left), GUS staining was confined to the stem, the basal part of the leaves, and to a small number of rhizoids originating from the base of the gametophyte. No staining was present in the apical part of the leaf, and staining was less pronounced in the top leaves compared to the leaves closer to the base of the gametophyte. The staining was significantly stronger but still confined to the same tissues in gametophytes exposed to 100 mM NaCl (right). Cover image by Christina Lunde.

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Peter V. Minorsky

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