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*Functional Plant Biology*

### Supplementary Material

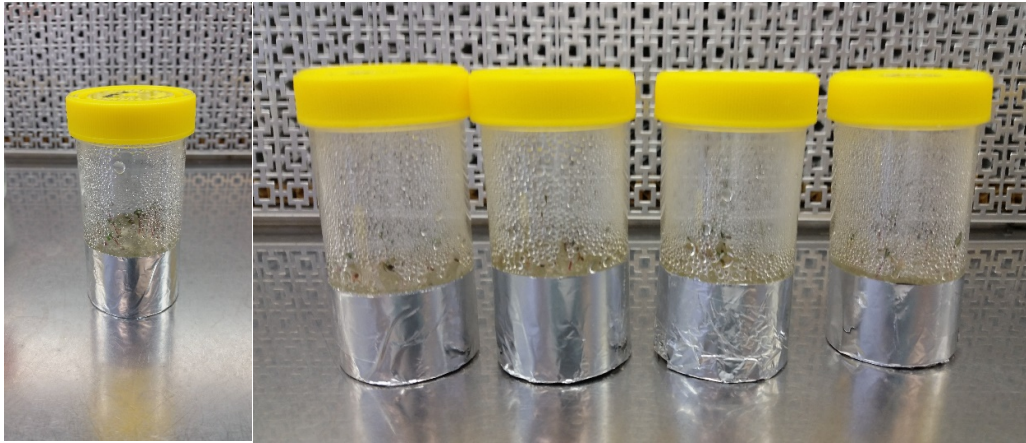
**Saltbush seedlings (*Atriplex* spp.) shed border-like cells from closed-type root apical meristems**

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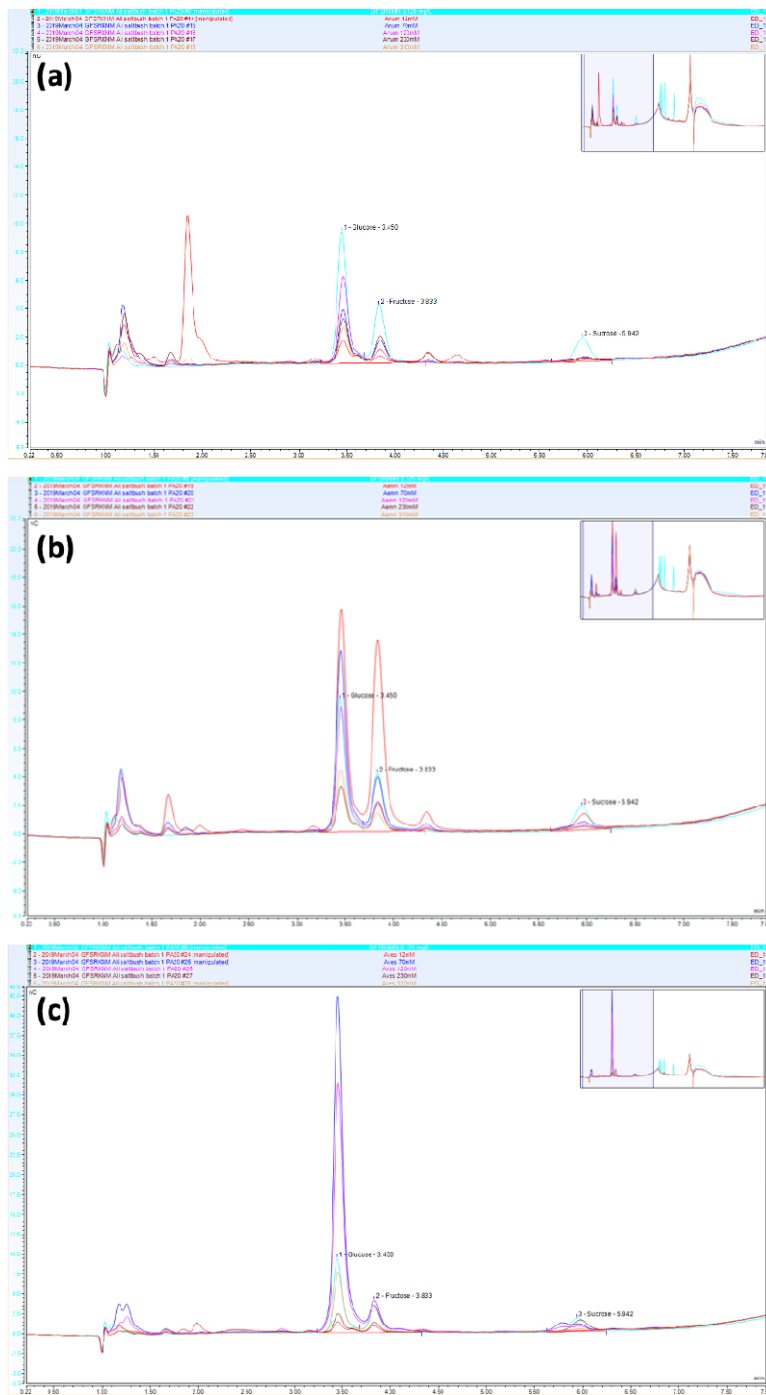
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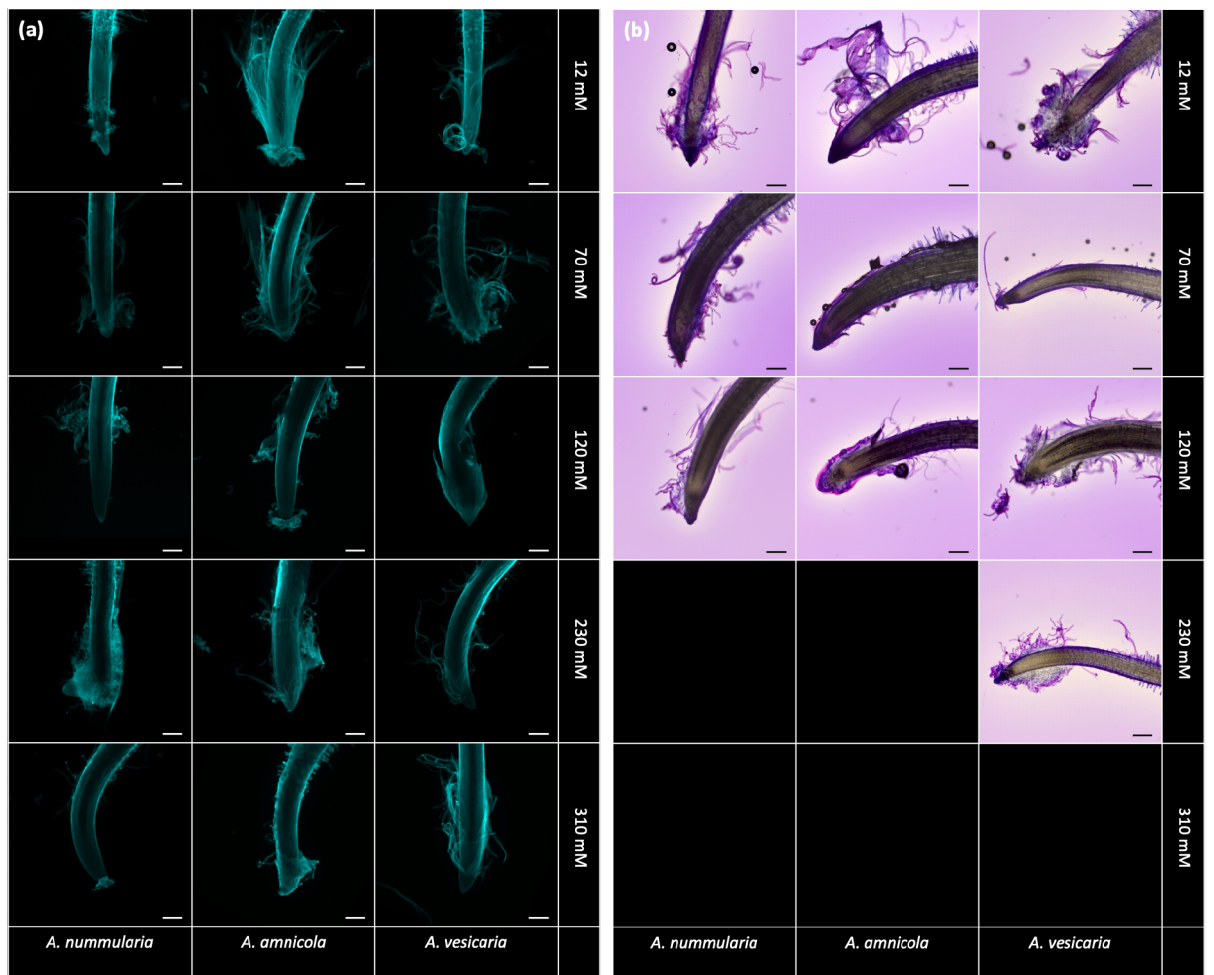
## Supplementary Information



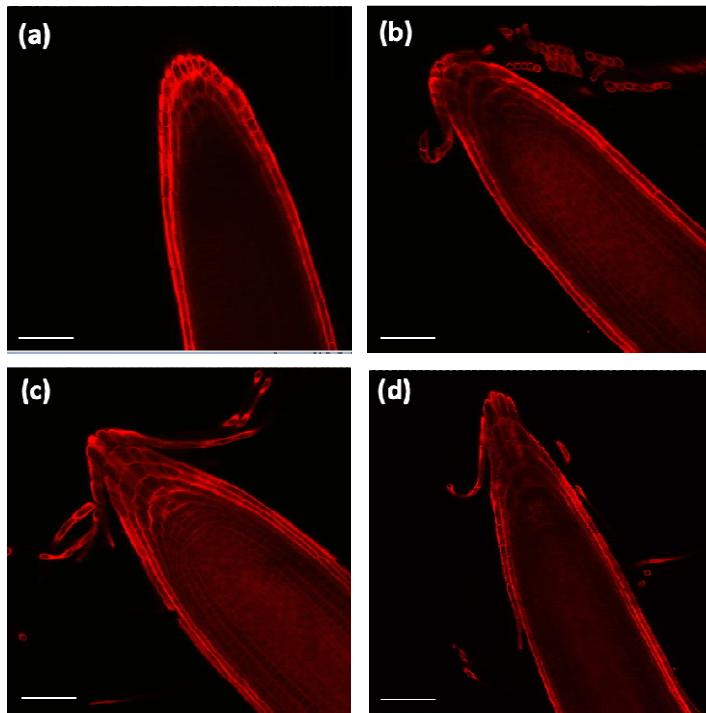
**Supplementary Figure S1.** Images of the experimental set up, with plastic tissue culture containers filled with glass beads. Saltbush seeds were germinated on top of the glass beads, with roots growing down into the beads, and alfoil blocking light to mimic soil conditions.



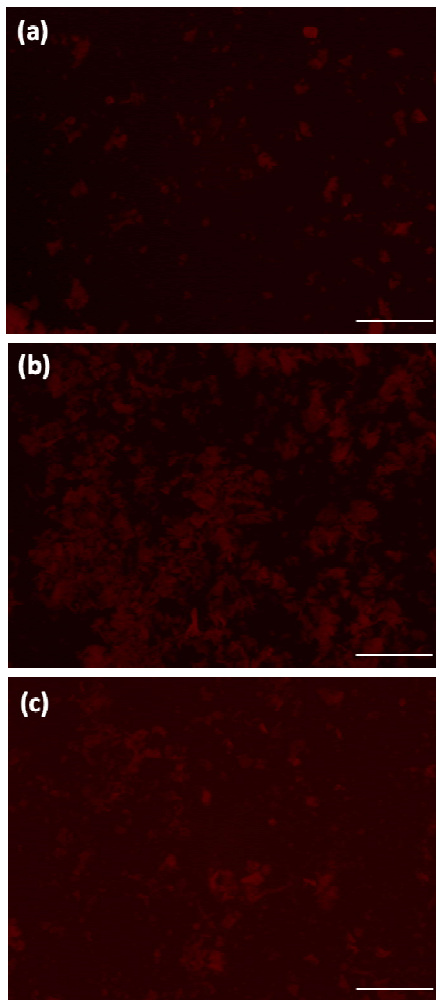
**Supplementary Figure S2.** HPAEC-PAD chromatograms reveal variations in glucose and fructose amount in (a) *A. nummularia*, (b) *A. amnicola* and (c) *A. vesicaria* root mucilage at five different salinity concentrations ranging from 12 mM to 310 mM NaCl. Elution times for glucose and fructose are 3.5 min and 3.8 min respectively.



**Supplementary Figure S3. (a)** Fluorescence microscopy of roots of three saltbush species grown at five different salinity levels stained with Calcofluor White shows saltbush root exudates contain  $\beta$ -glucans in cell walls. **(b)** Staining of saltbush roots with ruthenium red and crystal violet reveal border-like cell distribution. Images were not obtained for some high salt treatments due to the lack of germination and root growth. Scale bars = 200  $\mu$ m.



**Supplementary Figure S4.** Representative images of secondary-only controls with Direct Red 23 for immunofluorescent labelling. **(a)** = *A. nummularia* (12 mM NaCl), **(b)** = *A. nummularia* (70 mM NaCl), **(c)** = *A. amnicola* (230 mM NaCl), **(d)** = *A. vesicaria* (120 mM NaCl). Scale bars = 100  $\mu$ m.



**Supplementary Figure S5.** Images of broken and damaged border-like cells which comprise the water-insoluble fraction of root exudates in saltbush. **(a)** = *A. nummularia*, **(b)** = *A. amnicola*, **(c)** = *A. vesicaria*. Scale bars = 200  $\mu\text{m}$ .