

## *Supplementary Material*

# **Stress-Related Mitogen-Activated Protein Kinases Stimulate the Accumulation of Small Molecules and Proteins in *Arabidopsis thaliana* Root Exudates**

**Nadine Strehmel, Wolfgang Hoehenwarter, Susann Mönchgesang, Petra Majovsky, Sylvia Krüger, Dierk Scheel, Justin Lee**

\* **Correspondence:** Corresponding Author: [dscheel@ipb-halle.de](mailto:dscheel@ipb-halle.de) and [jlee@ipb-halle.de](mailto:jlee@ipb-halle.de)

## **1 Supplementary Methods**

Additional details of the LC/MS- based metabolite profiling

### UPLC settings:

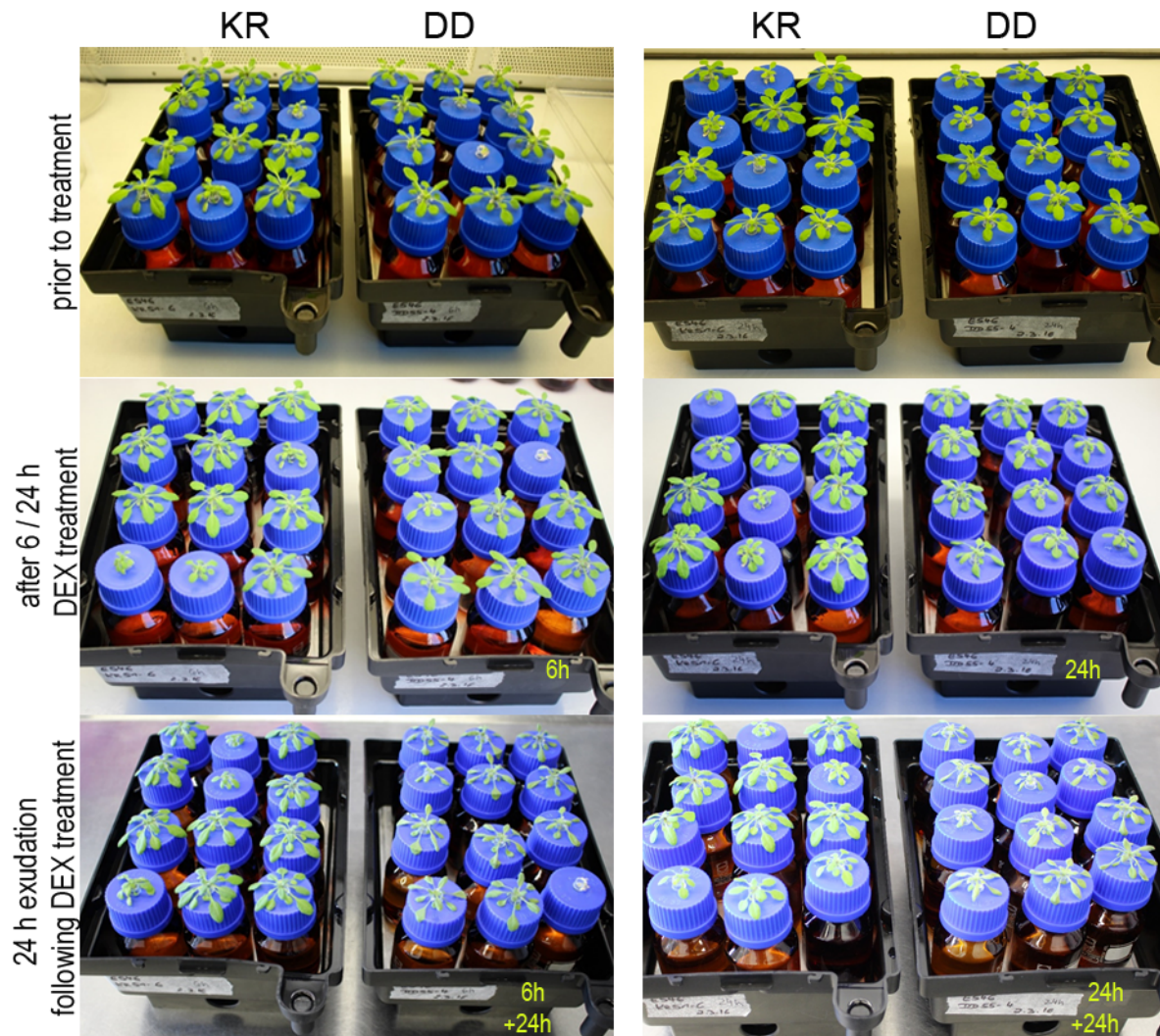
- Solvents: A (0.1% formic acid in water); B (0.1% formic acid in acetonitrile)
- Column: HSS T3 column (100 × 1.0 mm, particle size 1.8 µm, Waters)
- Gradient: 0–1 min, isocratic 95% A, 5% B; 1–10 min, linear from 5 to 60% B; 10–12 min, isocratic 95% B; 12–14 min, isocratic 5% B
- Flow rate: 150 µL min<sup>-1</sup>
- Temperature: 40°C

### Mass spectrometer:

- *m/z* 100–1000 in positive and negative ion mode
- nebulizer gas: nitrogen, 1.6 bar
- dry gas: nitrogen, 6 l/min, 190°C
- capillary, –5000 V (+4000 V); end plate offset, –500 V; funnel 1 RF, 200 Vpp; funnel 2 RF, 200 Vpp;
- hexapole RF: 100 Vpp
- quadrupole ion energy: 3 eV
- collision gas: argon; collision energy, 3 eV for ESI+ and 10 eV for ESI-; collision RF 200/400 Vpp (timing 50/50); transfer time, 70 µs; pre pulse storage, 5 µs; pulser frequency, 10 kHz

2. Figure S1

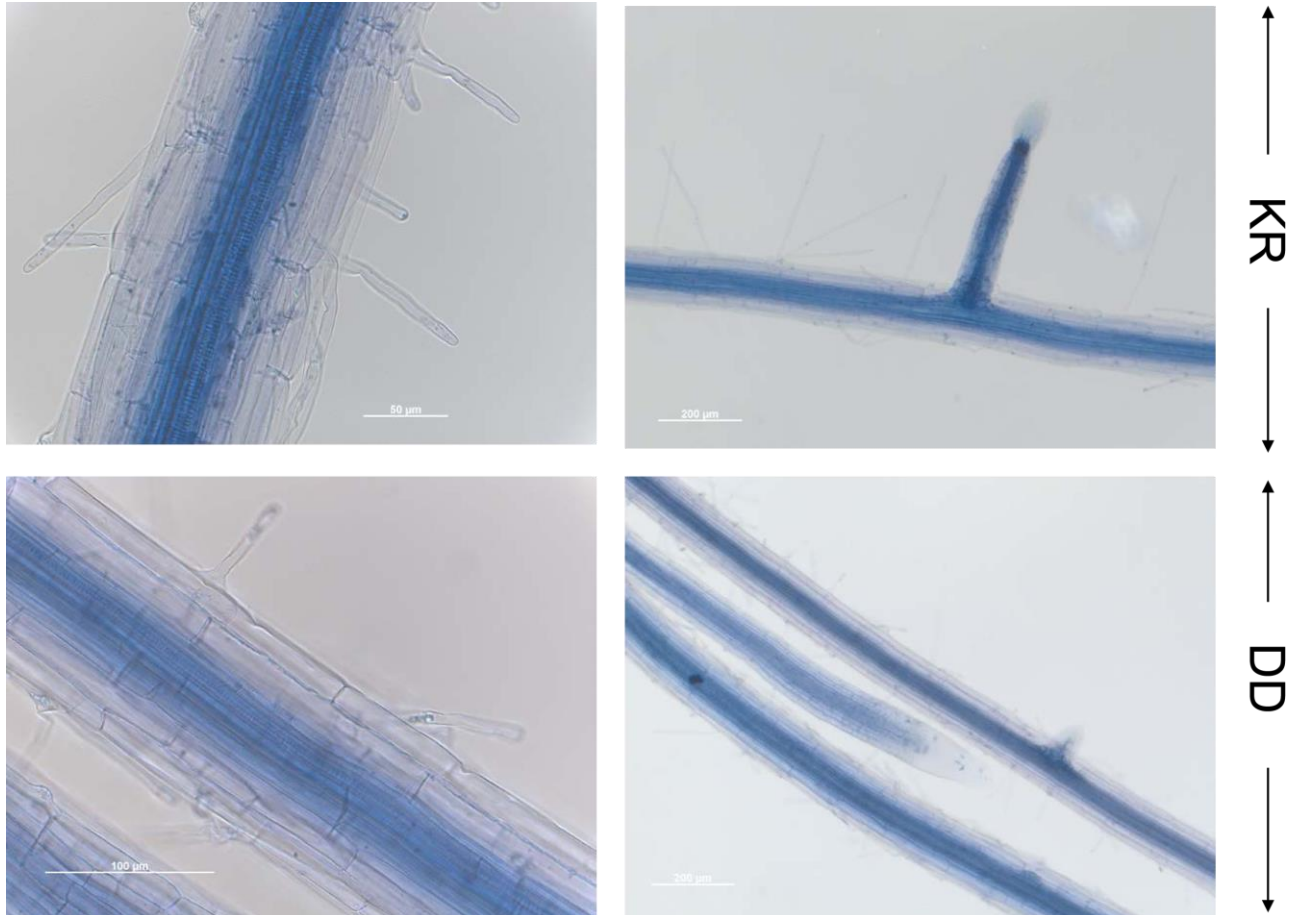
Symptoms of plants after DEX treatment



**Figure S2**

**Trypan-blue staining of roots (after treatment with DEX for 24 h).**

Note that only the central vasculature is stained. All other cells/tissues appear morphologically intact and are therefore presumably alive.



### **3. Supplementary Tables (in Excel format)**

**Supplementary Table S1:** Analytical Data of Roots after 6h or 24h dexamethasone treatment (and subsequent exudation for 24h into LC/MS-grade water).

**Supplementary Table S2:** Analytical Data of Root Exudates collected after 6h as well as 24h dexamethasone treatment and subsequent exudation for 24h into LC/MS-grade water.

**Supplementary Table S3:** Analytical characterization (MS/MS) of metabolites.

**Supplementary Table S4:** List of up-regulated (red) and down-regulated (green) proteins detected in the exudates of dexamethasone-treated DD line compared to the KR line.