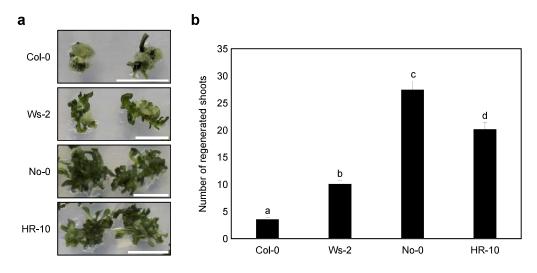
## **Additional file 3**



## Additional file 3. Plant regeneration using hypocotyl explants.

Calli preincubated for 7 days on callus-inducing medium (MS salt, 3% sucrose, 0.05% MES.H<sub>2</sub>O, 0.5 mg/L 2,4-D, 0.05 mg/L kinetin, pH 5.8, and 0.8% plant agar) in darkness were used to induce shoot regeneration on shoot-inducing medium (MS salt, 3% sucrose, 0.05% MES.H<sub>2</sub>O, 0.1576 mg/L IAA, 0.501 mg/L 2-IP, pH 5.8, and 0.8% plant agar) ( $n \ge 30$ ). Plates were incubated for 2 weeks under continuous light conditions and photographed (**a**). Scale bars = 1 cm. The number of regenerated shoots from each callus was measured ( $n \ge 30$ ) at 2 weeks after incubation on shoot-inducing medium (**b**). Biological triplicates were averaged. Different letters represent a significant difference at P < 0.05 (one-way ANOVA with Fisher's *post hoc* test). Bars indicate the standard error of the mean.