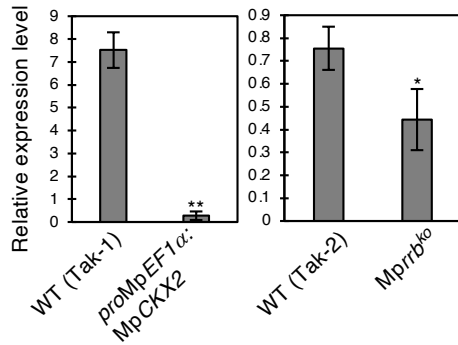
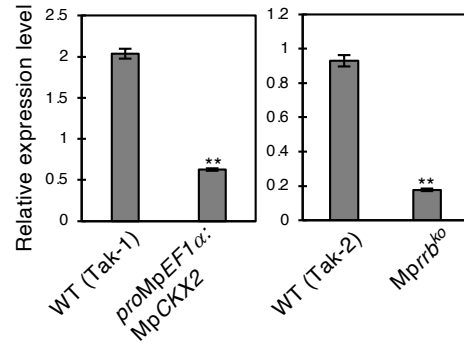


# Supplementary Figure S1

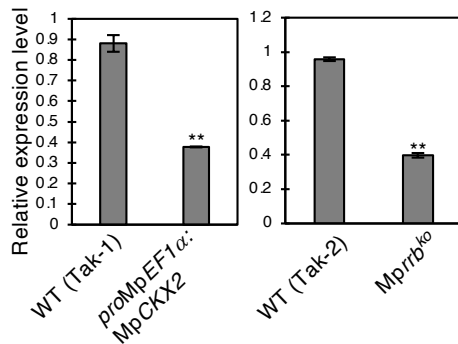
**a** Mp4g22840 (*NRT2.1* ortholog)



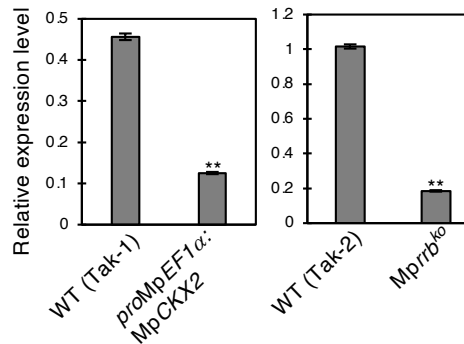
**b** Mp8g18730 (*NRT2.4* ortholog)



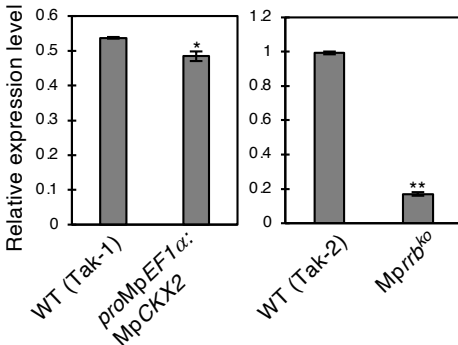
**c** Mp4g16300 (*NRT3.1* ortholog)



**d** Mp3g24720 (*NIR1* ortholog)

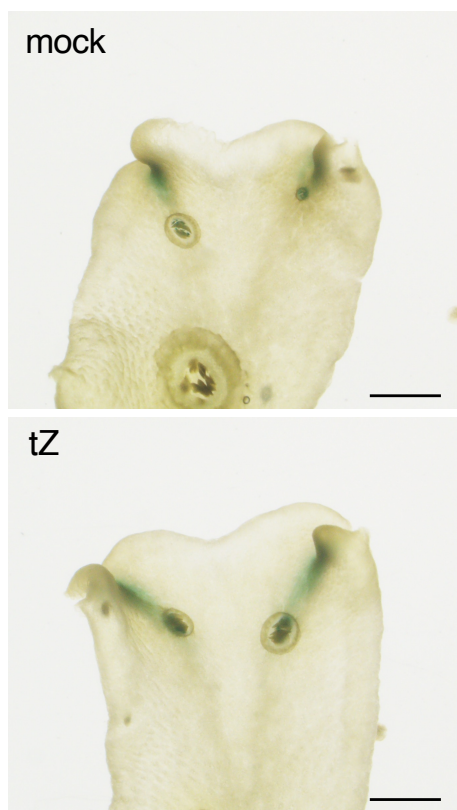


**e** Mp6g08310 (*AMT1* ortholog)



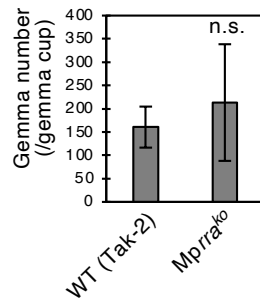
**Supplementary Figure S1** Transcript levels of genes related to nitrate assimilation and transport in the MpCKX2-overexpressing line and the Mprrb knockout mutant. (a) Mp4g22840 (*NRT2.1* ortholog), (b) Mp8g18730 (*NRT2.4* ortholog), (c) Mp4g16300 (*NRT3.1* ortholog), (d) Mp3g24720 (*NIR1* ortholog), and (e) Mp6g08310 (*AMT1* ortholog) were examined by qRT-PCR. mRNA levels were normalized to that of MpEF1α. Data are presented as mean  $\pm$  SD ( $n = 3$ ). Significant differences from the wild-type (Tak-1 or Tak-2) were determined by the Student's t-test as follows: \* $P < 0.05$ ; \*\* $P < 0.01$ .

## Supplementary Figure S2



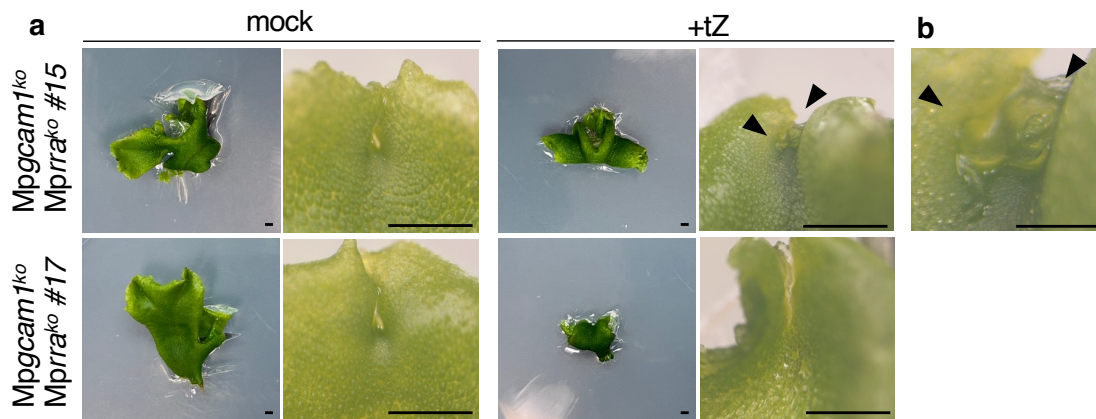
**Supplementary Figure S2** Promoter activity of *MpGCAM1* in the presence of exogenous cytokinin. 20-day-old thalli of *MpGCAM1pro:GUS* were treated with or without 50  $\mu$ M of tZ for four hours and subjected to GUS staining. Bar represents 2 mm.

## Supplementary Figure S3



**Supplementary Figure S3** Gemma number per gemma cup in the *Mprra* knockout line. Data are represented as mean  $\pm$  SD ( $n = 7$ ). Significant difference from the wild-type (Tak-2) was determined by the Student's t-test: n.s., not significant.

# Supplementary Figure S4



**Supplementary Figure S4** Morphological phenotype of the *Mpgcam1 Mprra* double mutants grown in the presence of exogenous cytokinin. (a) Thallus apices of the two *Mpgcam1 Mprra* double mutants (#15 and #17) were treated with (+tZ) or without (mock) 50  $\mu$ M tZ for 14 days. The right panels are magnified images of apical notches. Bars represent 2 mm. (b) Magnified image of gemma cups produced near the apical notch of tZ-treated plants (#15). Arrowheads indicate gemma cups. Bar represents 500  $\mu$ m.