

**Supplementary Materials:**

**Figure S1** Effects of Pb and *R. irregularis* inoculation on the expressions of *MtPT4* (**a**) and *MtBCP1* (**b**) in the root of *M. truncatula*. Expression of the *MtEF $\alpha$*  in the root of *M. truncatula* was used as an internal control for normalization. The data are the means  $\pm$  standard error (n = 3). Different letters within each gene indicate significant differences by LSD test ( $P < 0.05$ ), respectively. The abbreviation is consistent with Fig.2.

**Figure S2** Effects of Pb and *R. irregularis* inoculation on the concentration of P (**a**), K (**b**), Ca (**c**), and Mg (**d**) in roots and shoots of *M. truncatula*. The data are the means  $\pm$  standard error (n = 3). Different letters within each gene indicate significant differences by LSD test ( $P < 0.05$ ), respectively. The abbreviation is consistent with Fig.2.

**Table S1** Primer list of RT-qPCR.

**Table S2** Correlation analysis between Pb and AM fungi colonization in root with biomass, root structure, nutritive element concentration, and the relative expressions of genes in *M. truncatula* plants in different treatments.