

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 α* 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.