

**S14 Fig.** (a) Schematic of the fungal visualisation and quantification process of *Medicago truncatula* hairy roots after inoculation with *Rhizophagus irregularis*: 1, *M. truncatula* transgenic hairy roots express the DSRed marker and can be selected through detection of fluorescence under 510-560 nm; 2, DSRed positive roots are cut and divided into betalain producing and non-producing root fragments; 3, Pigmented and non-pigmented root fragments are ink stained separately (betalain colouration fades upon incubation with potassium hydroxide during the ink staining process); 4, Ink stained root fragments are mounted in glass slides and imaged for visualisation and quantification of fungal structures. (b) Example of *MtPT4*-p3 pigmented root fragments showing fungal colonisation. (c) Example of *MtPT4*-p3 non-pigmented uncolonised root fragments. Scale bar, 100  $\mu$ m.

