



**Fig S2. MdSAT1 regulates root hair development and growth**

*MdSAT1-OE* and Col *Arabidopsis* plants were grown for 3 d under LP (1.25  $\mu\text{M}$   $\text{K}_2\text{HPO}_4$ , 1.5% sucrose and 0.8% agar powder, pH 5.9) or HP (1.25 mM  $\text{K}_2\text{HPO}_4$ , 1.5% sucrose and 0.8% agar powder, pH 5.9) conditions. Plants grow at 23  $^\circ\text{C}$ /21  $^\circ\text{C}$  for day/night with 16L/8D, with an irradiance of 150  $\mu\text{mol m}^{-2}\text{s}^{-1}$  and relative humidity of 60-70%. Morphological changes (**a-b**), Root hair number (**c**) and Root hair length (**d**) are presented. Error bars represent the standard deviation ( $n \geq 3$ ). Different letters above the bars indicate significantly different values ( $P < 0.05$ ).