Supporting Information

Effect of Gene Mutation of Plant on Their Mechano-Sensibility: Mutant of *EXO70H4* Influences the Buckling of *Arabidopsis* Trichomes

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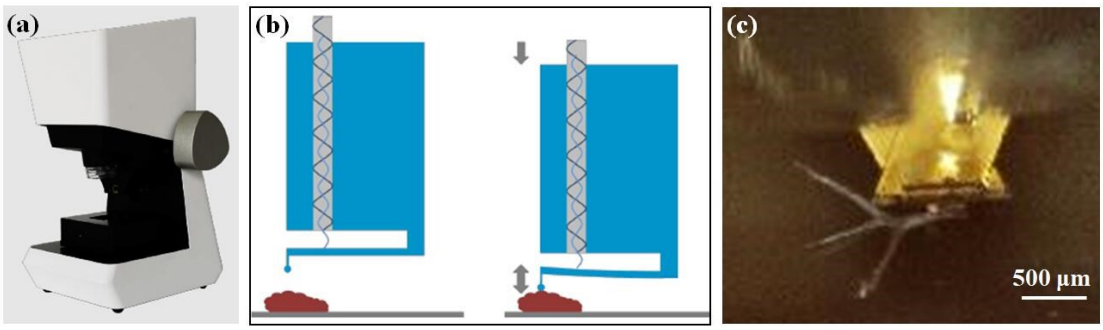

Figure S1. (a) Piuma Nanoindenter (OPTICS 11, De Boelelaan, 1081 HV Amsterdam, The Netherlands). (b) Schematic of the nanoindentation probe. (c) Optical microscope image of a trichome pressed by a nanoindentor.

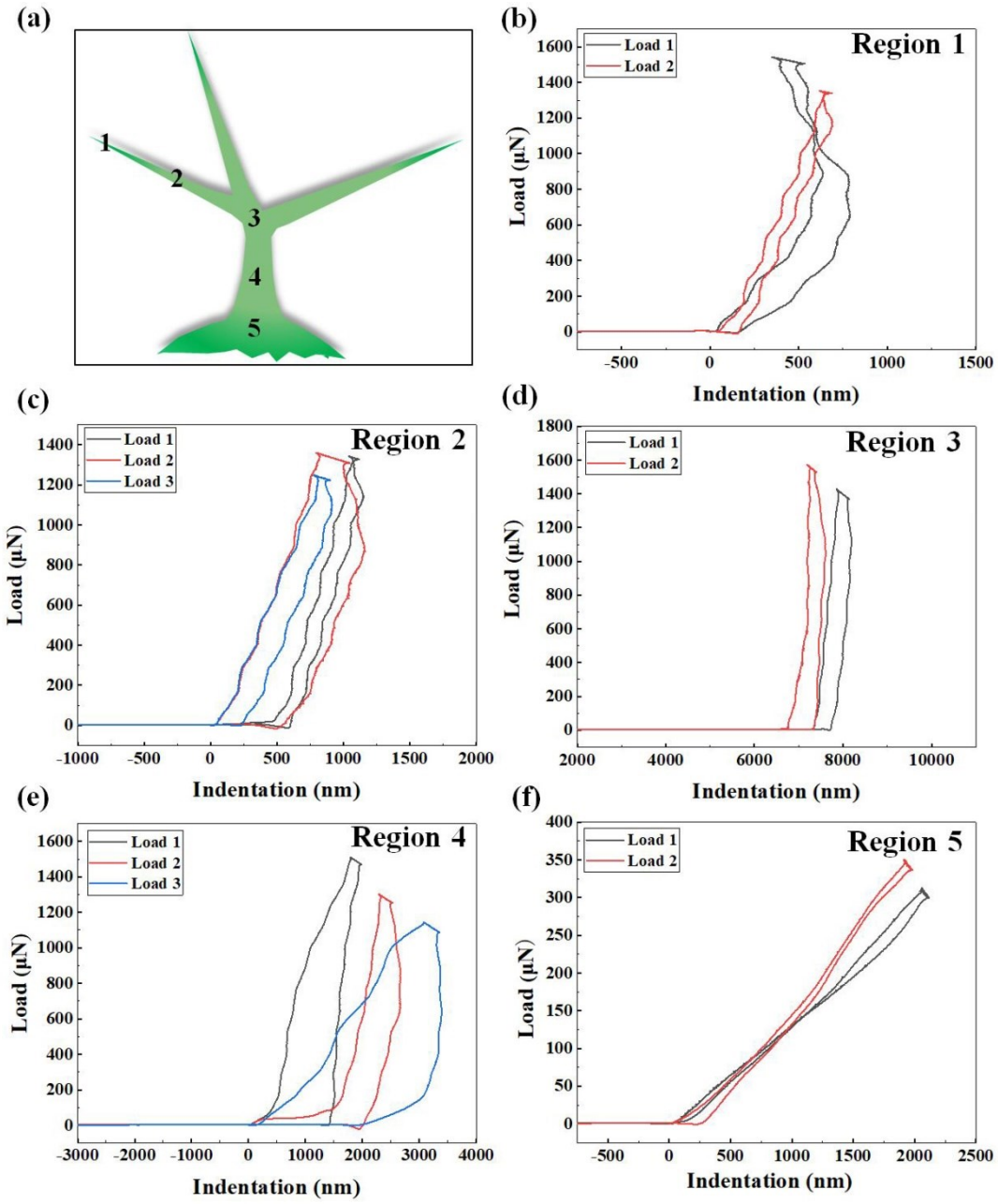

Figure S2. (a) The schematic of trichome in nanoindentation experiments, the numbers on the trichome means five different regions. (b-f) Curves of reaction force-indentation depth for five regions labeled in (a).

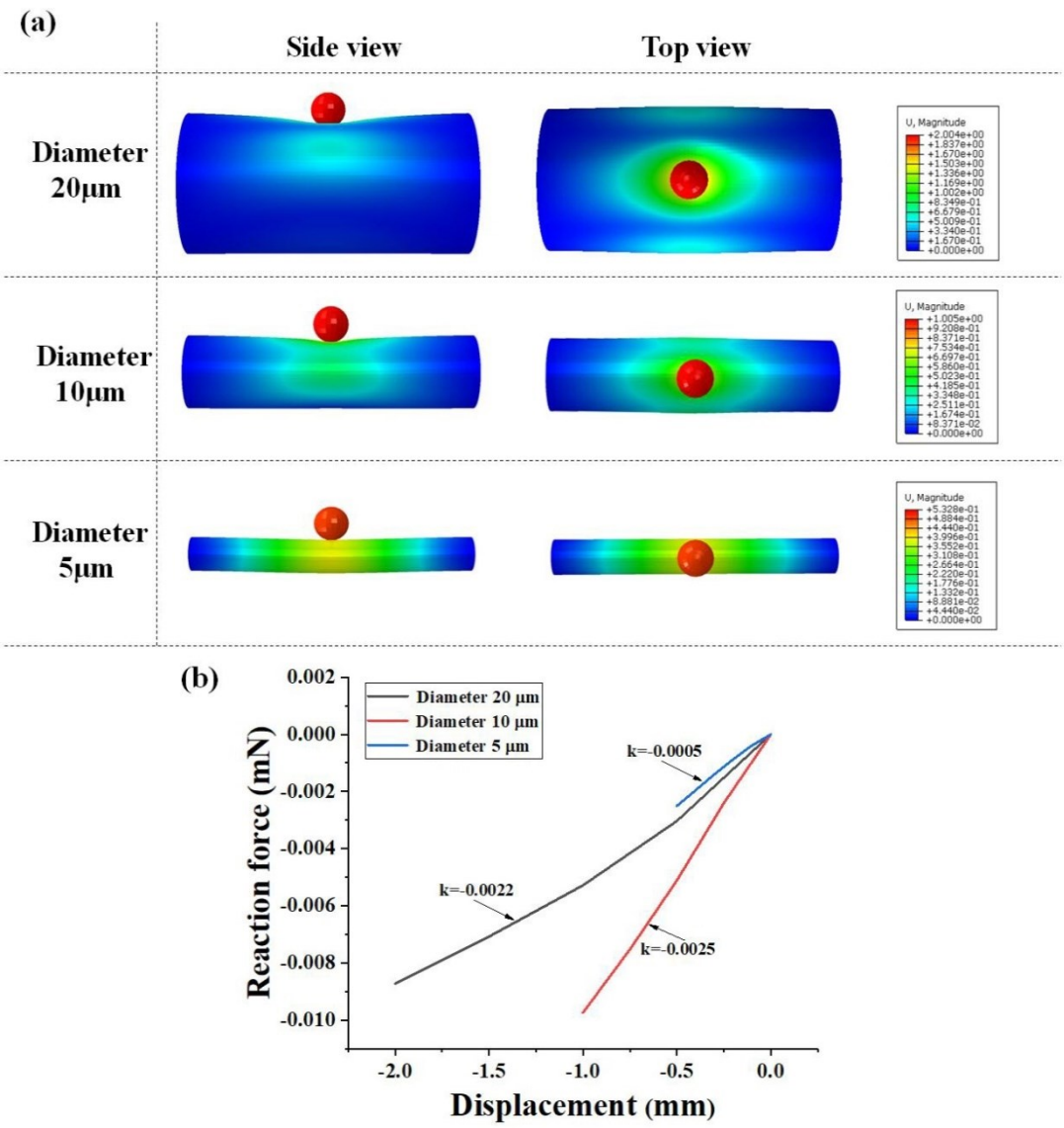

Figure S3. (a) Simulation of a spherical probe pressing on a hollow cylinder of trichome with different diameters, color images represented the contours of displacement magnitude. (b) Curves of reaction force-indentation depth, *k* is the slop of corresponding curve which indicated that Young's modulus measured by nanoindentation was not influenced by the hollow part of trichome branches.

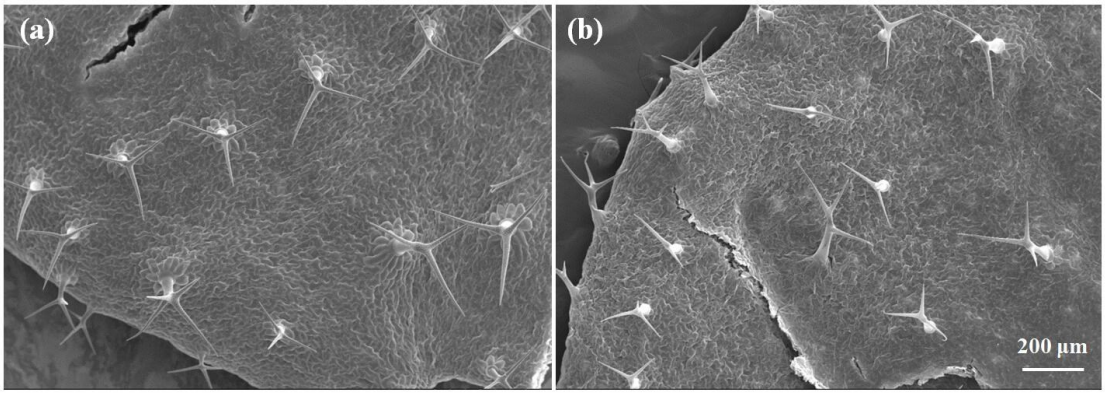

Figure S4. Scanning electron micrograph of the fourth leaves of a one-month-old wild type and mutant *Arabidopsis*, which suggested that no significant difference in the density and structure of trichomes between mutant *exo70H4* and the wild type.

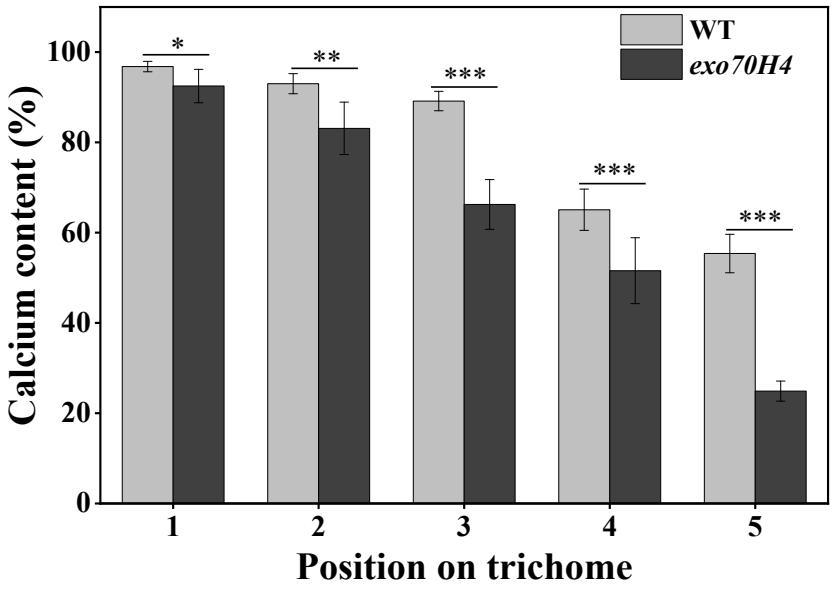

Figure S5. Absolute values of calcium content on mutant trichomes are significantly lower than the wild type at every region.

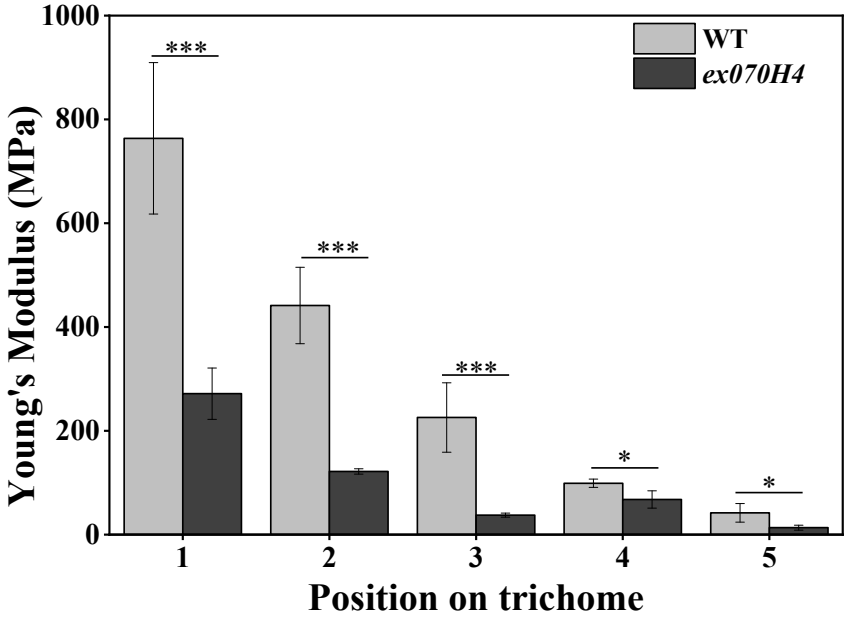

Figure S6. Absolute values of the Young's modulus of the mutant trichome are apparently lower than the wild type at every region.