1579 Construction and Analysis of SSH Library of *Gossypium hirsutum* L. upon Infection with *Verticillium dahliae*

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To obtain resistant-related candidate genes of *Verticillium wilt* from upland cotton, a high *Verticillium wilt* resistant cotton cultivar was chosen to be used for construction of a SSH library. Sequence similarity searches showed most of clones were homology to genes or ESTs from the SSH libraries induced by other pathogens. Their amino acid sequences were homology to some resistant-related genes, such as cytochrome P450 mono-oxygenase, Thaumatin-like Protein, chitinase and PR proteins. The full length of class III (*Ghachi3)* and class‡W (*Ghachi4)* chitinase was obtained by RACE and RT-PCR. The polypeptide encoded by these two genes shared 71% and 65% similarity to their homologous proteins of *Arabidopsis*. *Ghachi3* were abundant in petals, buds and phloem, whereas *Ghachi4* only showed an extremely high level in phloem by semi-quantitative RT-PCR. The accumulation of *Ghachi4* increased remarkably after treatment of *Verticillium dahliae* and *Fusarium oxysporum* in the disease resistant cultivar exclusively. But *Ghachi3* was also induced by *Verticillium dahliae* in the susceptible cultivar. In addition, the expression of both the two genes increased remarkably after treatment of ABA.