Title In vitro evaluation of antifungal activity of soybean (*Glycine max*) seed coat proteins

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Abstract

Proteins in the soybean seed coat have previously been characterized; however, the function of these proteins is unknown. We show that a soybean seed coat protein fraction was able to inhibit the growth of *Fusarium lateritium* and *Fusarium oxysporum* phytopathogenic fungi. The antifungal fraction isolated by DEAE-Sepharose chromatography revealed the presence of peroxidase, vicilin and a 24 kDa protein homologous to acid phosphatases. Germination experiments revealed that both acid phosphatase and peroxidase were exuded during seed imbibition. We suggest that the set of seed coat antifungal proteins may help protect seeds from colonization by phytopathogenic fungi.