Differential expression of four soybean bZIP genes during *Phakopsora pachyrhizi* infection. Alves, MS[1]; Soares, ZG[1]; Vidigal, PMP[1]; Marcelino-Guimarães, FC[2]; Barros, EG[3]; Poddanosqui, AMP[2]; Aoyagi, LN[2]; Abdelnoor, RV[2]; Fietto, LG[1]. [1]Departamento de Bioquímica e Biologia Molecular, Universidade Federal de Viçosa; [2]Embrapa Soja; [3]Universidade Católica de Brasília. E-mail: murilobqi@gmail.com. Expressão diferencial de quatro genes bZIP de soja durante a infecção por *Phakopsora pachyrhizi*

Asian soybean rust (ASR), caused by the obligate biotrophic fungus *Phakopsora pachyrhizi,* is one of most important diseases in soybean (*Glycine max* (L.) Merr.) agribusiness. The identification and characterization of genes related to plant defense responses to fungal infection are essential to the development of ASR-resistant plants. In this work, we describe four genes in the soybean, GmbZIP62, GmbZIP105, GmbZIPE1 and GmbZIPE2, which encode transcription factors containing a basic leucine zipper (bZIP) domain from two divergent classes, and that are responsive to *P. pachyrhizi* infection. Phylogenic molecular analyses demonstrated that these genes encode proteins with sequence similarity to bZIP factors responsive to pathogens. Transient expression experiments *in planta* showed that three of those factors exhibit nuclear localization, whereas only GmbZIP62 has strong transactivation activity in yeast. On the other hands, all the bZIP transcription factors analyzed was differentially expressed by plant defense hormones and fungal attack, indicating that these proteins might participate in response to ASR infection. The results suggest that these bZIP proteins are part of the plant defense response to *P. pachyrhizi* infection by regulating the gene expression related to ASR infection responses, showing that these bZIP genes are potential targets to obtain new soybean resistant genotypes to ASR. **Apoio financeiro:** FAPEMIG; CNPq; CAPES.

Palavras-chave: Biotic stress; signal transduction; plant defense; Asian soybean rust; transcriptional control.