Drought stress, one of the harshest abiotic stress factors, limits plant growth, development and survival eventually resulting in loss of yields. Due to limited water supply worldwide, breeding plants with drought resistance has been emphasized as a solution. Chinese cabbage, one of the most important vegetables mainly consumed in Asia including Korea, is also damaged by drought stress. To develop drought-resistant transgenic Chinese cabbage plant, the gene related to drought tolerance, \textit{BrDSR28}, was screened from \textit{Brassica rapa} 135k microarray data with \textit{Brassica rapa} ssp. \textit{pekinensis} ‘CT001’ and the over-expression vector of the gene (p28O) was constructed. \textit{Agrobacterium}-mediated transformation was performed in \textit{B. rapa} with the p28O over-expression vector and \text{T0} generation plants were confirmed by PCR. Confirmed \text{T0} plants were advanced to \text{T1} generation and these \text{T1} lines were confirmed by PCR and RT-PCR. Selected \text{T1} lines were analyzed their phenotype under drought stress. Compared to non-transgenic plants, \textit{BrDSR28} over-expressed plants showed high tolerance and survival rate. To research differences of gene expression level of \textit{BrDSR28} between transgenic and non-transgenic plants quantitative RT-PCR is being conducted.

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