

Transcriptome analysis for the Antarctic native flowering plants which have adapted to the extreme environments

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Land plants are often exposed to unfavorable conditions for growth. Extreme temperatures, drought, high salinity and high-UV radiance, are typical environmental stress factors that inhibit the growth and development of plant and these environmental stress can alter cellular structures and cause damage to the physiological functions. The Antarctic is one of the toughest environment for living life to survive. Because of the harsh natural conditions, an extremely small number of species has been survived and only two native angiosperms are present, *Deschampsia antarctica* Desv. (Poaceae) and *Colobanthus quitensis* (Kunth) Bartl. (Caryophyllaceae). Despite they have been studied as extremophiles that have successfully adapted to the marginal land, limited genetic research has focused on these due to the lack of genomic resources. Here, we present the results of deep transcriptome sequencing of *D. antarctica* and *C. quitensis* and the results from functional studies using interested genes.