

RNA-seq data of *Ganoderma boninense* at axenic culture condition and under in planta pathogen-oil palm (*Elaeis guineensis* Jacq.) interaction

ABSTRACT

Objective: Basal stem rot disease causes severe economic losses to oil palm production in South-east Asia and little is known on the pathogenicity of the pathogen, the basidiomyceteous *Ganoderma boninense*. Our data presented here aims to identify both the house-keeping and pathogenicity genes of *G. boninense* using Illumina sequencing reads. **Description:** The hemibiotroph *G. boninense* establishes via root contact during early stage of colonization and subsequently kills the host tissue as the disease progresses. Information on the pathogenicity factors/genes that causes BSR remain poorly understood. In addition, the molecular expressions corresponding to *G. boninense* growth and pathogenicity are not reported. Here, six transcriptome datasets of *G. boninense* from two contrasting conditions (three biological replicates per condition) are presented. The first datasets, collected from a 7-day-old axenic condition provide an insight onto genes responsible for sustenance, growth and development of *G. boninense* while datasets of the infecting *G. boninense* collected from oil palm-*G. boninense* pathosystem (in planta condition) at 1 month post-inoculation offer a comprehensive avenue to understand *G. boninense* pathogenesis and infection especially in regard to molecular mechanisms and pathways. Raw sequences deposited in Sequence Read Archive (SRA) are available at NCBI SRA portal with PRJNA514399, bioproject ID.

Keyword: *Ganoderma boninense*; Basidiomycete; Transcriptome; Basal stem rot; Pathogenicity factors