上海市生物化学与分子生物学学会

2019 年青年学术论坛

优秀青年报告 推荐表

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报告题目	**Comparative genomics and transcriptomics analysis of _Morchella conica_ SH**		

报告摘要	In order to advance the genomics and medicinal applications of the precious mushroom _Morchella conica_, we sequenced, assembled and analyzed the whole genome of _M. conica_ SH. The assembled genome has a total length of 55.9 Mb and contains 9,676 genes, with an average gene length of 2,336 bp. Comparison with 28 related fungi revealed a genome expansion in _M. conica_ and saprotrophic fungi. Several genes predicted to be associated with fruiting body and mycelia were identified by transcriptomics analyses. Sequence analysis of _M. conica_ SH and its soil microorganisms reveals that _Proteobacteria_ and _Bacteroides_ are present in the fruiting body, which also represents a significant share of the soil microorganisms, suggesting possible roles in artificial cultivation. In addition, we performed T cell proliferation assay and discovered morel extract can promote T cell proliferation _in vitro_ and suppress the HepG2 cells and lymphoma cells. Comparative genomic analysis of _M. conica_ SH showed that there were gene family expansions in the biosynthesis of glycan, which is the main bioactive compound of _M. conica_ SH. Gene _ERI1_ encoding GPI-N-acetylglucosaminylytransferase involved in Glycosylphosphatidylinositol-anchor biosynthesis pathway was also found in _M. conica_ SH but not in _Tuber melanosporum_, _Pyronema confluens_, _Ganoderma_, suggesting that the gene may be unique to _M. conica_ SH. The completion of _M. conica_ genomic blueprint provides a valuable resource not only for biological discovery and evolutionary studies, but also for the artificial cultivation and further investigation in the function of its medically important metabolites in boosting the immune system.
论文发表情况 （近三年）	1MF 7 5 9F? & +9) =L9D! GFKLJM LAGF 9F< ; @9J9; L=JAR9LAGF G>L@= %$ 2 ?=F= 9K9 FGN=DK=D=; LAGF E 9JC=J AF _KH=J?ADDMKFA;M9FK_ HHD+ AJG AGD AGL=; @FGD ☐☐☐☐ ☐☐ ☐☐☐☐ @LLHK <GAGJ? ☐☐ ☐☐☐☐ K☐☐☐☐ ☐☐ ☐☐☐☐

请在 **2019 年 8 月 29 日**之前提交推荐表至学会办公室 ssbmb@sibs.ac.cn。

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