

ウイルスファージ感染トランスクリプトームの分析

Analysis of the virophage infection transcriptome

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研究成果概要

We performed a time-course transcriptome analysis in a coinfection system of *Acanthamoeba polyphaga* mimivirus (APMV) and Sputnik 3 virophage with *Acanthamoeba castellanii* as their host and compared coinfection treatment to single infection of APMV. The overall sample distances calculated by Eluclidean method indicates that sputnik mainly affected gene expression of APMV from the mid-phase (about 6 hours after infection). Meanwhile, according to the transcriptome analysis results, combining with the limited gene annotation of virophage, we found that the replication of sputnik seems starts from 3 hpi and continue to 6hpi which is coordinate with the activate DNA replication time of APMV. For genes about DNA packaging and capsid formation, it shows activity increase in the late part of infection (6hpi and 12hpi), which indicates the quite close dependency of sputnik production with APMV and possibly more rely on the mid-late phase genes of APMV replication. However, due to the lack of biological replicates, we cannot make definite conclusion about the results and also cannot do any further statistical analysis. We have sent new samples that contain three replicates for sequencing to confirm the observation and may be able to discovering something new from them.