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### **Long-noncoding RNAs and mRNAs expression profiles in RD cells infected by EV71 using RNA-seq**

**Ying Li**

Zhengzhou University, China

Enterovirus 71 (EV71) is a main pathogen of severe hand-foot-mouth disease (HFMD). Long non-coding RNAs (lncRNAs) are recognized as pivotal factors during the pathogenesis of viral infection. However the critical functions of lncRNAs in EV71-host interactions have not been characterized. Here, we performed global transcriptome analysis of lncRNA and mRNA expression profiles in EV71-infected human RD cells using second-generation sequencing. In our study, 2216 novel lncRNAs were identified. In addition, 96 lncRNAs (58 upregulation and 38 downregulation) and 2233 mRNAs (1246 upregulation and 987 downregulation) exhibited remarkable differences (fold change  $\geq 2.0$ ) in expression levels between infected and uninfected RD cells. Comprehensive bioinformatics analysis included target gene prediction, lncRNA-mRNA co-expression network construction, as well as GO and KEGG pathway analysis mainly focused on differentially expressed genes. Our results suggest that lncRNA may involve with the pathogenic mechanisms of EV71 infection and may be relevant to innate immunity, cellular component biogenesis and transcription-related signaling pathways. The present study provides novel insights into the functions of lncRNAs and the possible pathogenic mechanism following EV71 infection.

1019815733@qq.com