

O-6. Detection and Epidemiological Analysis of Symbiotic Viruses from Protozoa Using the FLDS (A Comprehensive dsRNA Sequencing Method)

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We have detected the symbiotic virus of *Eimeria* that infects chickens by next-generation sequencing (NGS) analysis using the FLDS method (Fragmented and primer Ligated dsRNA Sequencing). Total nucleic acid was extracted from *Eimeria* oocysts and dsRNA was purified using a cellulose column that specifically adsorbed dsRNA. Subsequent analysis with NGS using the FLDS method yielded various dsRNA contigs. Of these, the percentage of total reads indicates that there is a high probability that three types of contigs are present in chicken *Eimeria* or chickens. As a result of BLAST analysis, 1 contig showed more than 80% homology to *Eimeria brunetti* RNA virus 1, and this contig was considered to be the sequence of the symbiotic virus of *Eimeria*. The remaining two species were suggested to be novel dsRNA viruses.

Next, we designed primers using the analyzed sequences and carried out epidemiological analysis of *Eimeria brunetti* RNA virus 1 by PCR. As a result, viral sequences were detected from some chicken *Eimeria* in Japan.