

Description of Additional Supplementary Files

Supplementary Data 1: DNA content percentage of different *T. foetus* strains incubated in culture media at pH 8 for 24 and 48 hours. Parasites control: K (c), 82C (c), and 97H (c).

Supplementary Data 2. Summary table of the putative enzymes for *T. foetus* cyst formation. The table is organized as follows: Enzyme (name), Gene ID (from TrichDB.org), Product Description, EC numbers (functional annotation), EC numbers from OrthoMCL (associated by orthology), RNAseq (assembly id), log2 fold change, padj (adjusted p-value), Ctrl1-3 (tpm values for control replicates) and Treatment1-3 (tpm values for treatment replicates).

Supplementary Data 3: Summary table of data and metrics from differential analysis (DESeq2) and GSEA. Table is organized as follows, Assembly Id: assembler id assigned by StringTie software; log2FoldChange: log2 fold change calculated by DESeq2; pvalue: p-value from Wald test; padj: Benjamini-Hochberg adjusted p-values; refGene: reference gene identification number associated with the assembled transcript. Reference identification number were obtained from TrichDB.org (*T. foetus* K1 genome v64); Description: gene product description; Metric: the specific metric used to rank the entire dataset of genes, $(\log_2fc) \times (-\log_{10}pvalue)$. P-values were calculated using a two-tailed Wald test and adjusted for multiple testing using the Benjamini-Hochberg method.