Additional file 8. KEGG pathway enrichment analysis. (A–C) UpSet plots showing overlap between ORA and GSEA results for KEGG pathways across three comparisons. (D–F) Dot plots representing GSEA-enriched KEGG pathways: (D) NEG vs. L1C_MVL (C1), (E) NEG vs. L1A_MVL (C2), and (F) L1C_MVL vs. L1A_MVL (C3). Immune-related pathways are strongly enriched in L1C_MVL samples. (G) Network representation of GSEA-enriched KEGG pathways based on semantic similarity clustering.