



Supplementary Fig. 6. Analysis of GSE156902 for Differential Expression, Enrichment, and Immune Infiltration Subtypes. Unsupervised clustering of GBM samples from GSE156902 revealed three distinct immune subtypes. GO-BP and KEGG enrichment showed differences in immune and inflammatory pathways across groups. CIBERSORTx-based immune profiling demonstrated that Group 3 had significantly higher infiltration of CD4+ and CD8+ T cells, while neutrophil and Th2 infiltration varied significantly between groups ($p < 0.05$). GBM can be stratified into distinct immunological subtypes based on IL32-related expression profiles, with IL32 likely contributing to immune cell composition and inflammatory signatures in the tumour microenvironment.