**Additional information: The formula for the immune cell infiltrating score derived from the least absolute shrinkage and selection operator (LASSO) Cox regression in the training cohort. The immune cell fraction level divided by the cut-off value was valued as 0 or 1 in this immune infiltrating score formula.**

Plasma cells × (-0.224280801) + T cells CD8 × (0.009835404) + T cells CD4 memory resting × (-0.179926943) + T cells CD4 memory activated × (0.070710393) + T cells follicular helper × (0.136284645) + NK cells activated × (0.050648664) + Macrophage M0 × (0.307680005) + Macrophage M1 × (0.068630071) + Macrophage M2 × (0.129725939) + Dendritic cells activated × (0.218854217) + Mast cells resting × (-0.250907406) + Mast cells activated × (0.160597523) + Neutrophil × (0.187597462)