

Figure S1 Flow chart of the study.

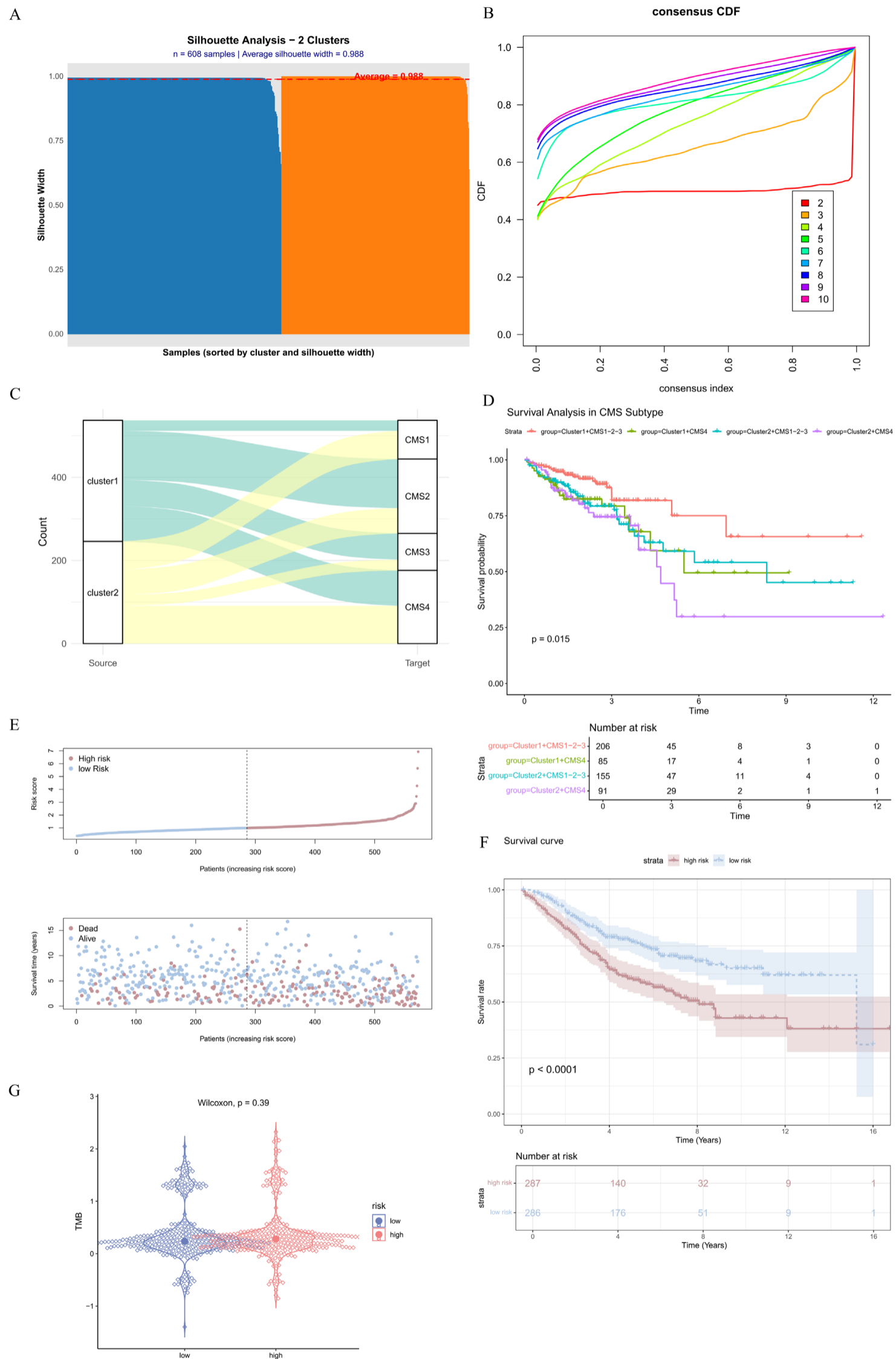


Figure S2 Determination of ERG molecular typing, association with CMS typing, and validation of prognosis and mutation load (A) sample outline width graph when $K=2$. (B) Consensus cumulative distribution function (CDF) curve. (C) Sankey diagram showing the correspondence between cluster 1 and cluster 2 and CMS1-4. (D) K-M survival curves of patients belonging to CMS1-3 subtypes within cluster 1 and cluster 2 and those belonging to CMS4 subtype. (E) risk score distribution and survival outcome statistics of the validation set GSE39582. A total of 190 deaths occurred, including 116 in the high-risk group and 74 in the low-risk group. (F) Survival curve of the validation set GSE39582. (G) Comparison of TMB (tumor mutation load) between high-risk and low-risk groups.

Table S1 13 key genes with potential prognostic value

Gene	Coef
<i>SALL1</i>	-0.050068
<i>PRG4</i>	0.0838879722652723
<i>FTCD</i>	0.0220505531961425
<i>UPK3B</i>	0.0437714482491519
<i>RBP7</i>	0.0444395203952587
<i>CXCL13</i>	-0.004961
<i>KRT84</i>	0.193342283305005
<i>MAGEA1</i>	0.0410112562331138
<i>MMP1</i>	-0.041344
<i>PCOLCE2</i>	0.10214457570025
<i>ALPP</i>	0.0222404998085306
<i>HOXC6</i>	0.0775678365009155
<i>FOXD1</i>	0.0513109420042971