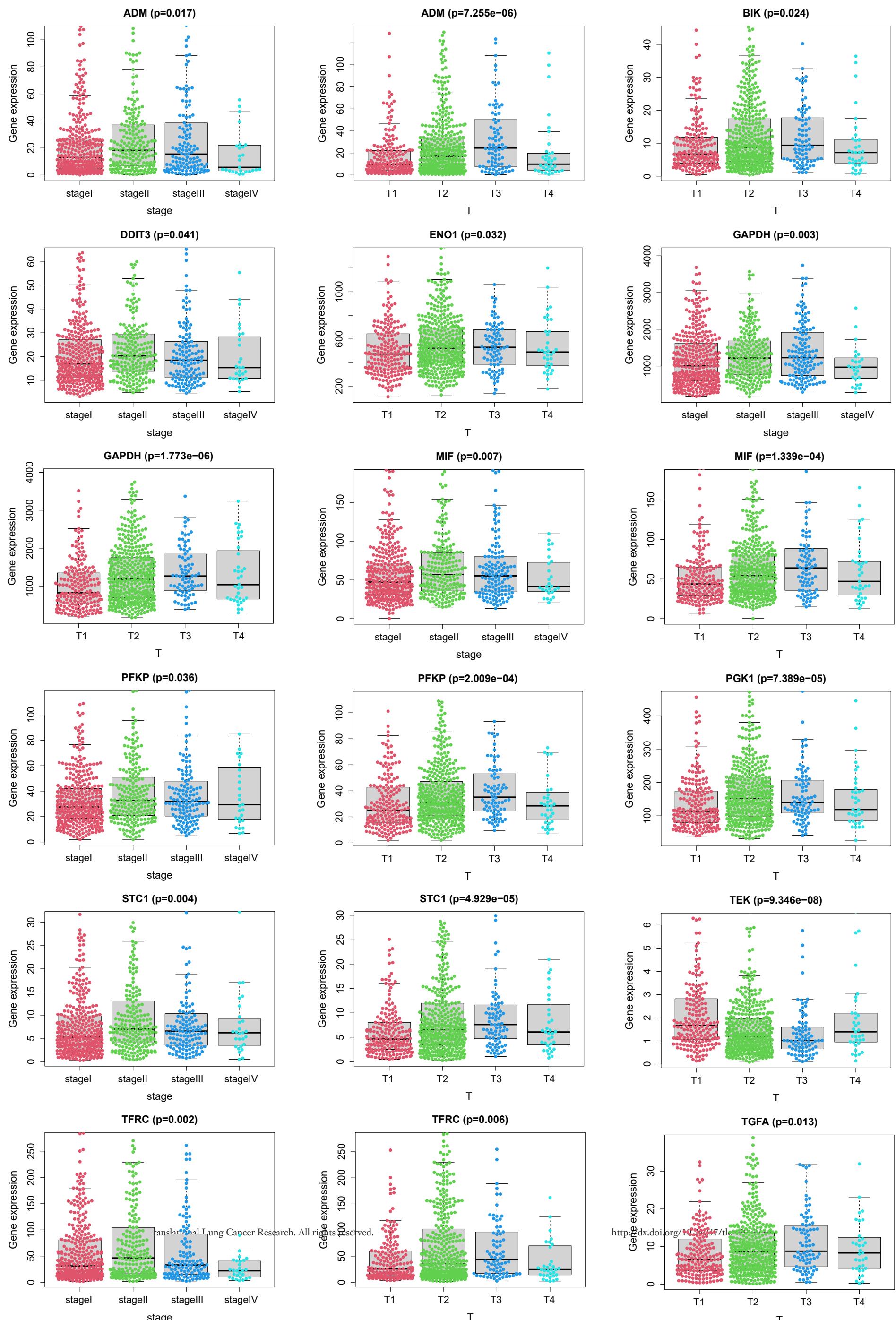


**Figure S1** The basis of clustering and the difference of signature molecules between normal and tumor tissues. (A) Consensus matrices for  $k=2$ ,  $k=4$  and  $k=5$ . (B) Principle component analysis of three different hypoxia modification patterns. (C) Differences in expression of signature factors in normal and cancer tissues. (D) Analysis of mutation co-occurrence and exclusion of signature factors, co-occurrence was indicated in blue, while exclusion was indicated in yellow. (\*,  $P<0.05$ ; \*\*\*,  $P<0.001$ ).



**Figure S2** Clinical correlation analysis. Analysis of differential expression of signature factors in TNM stage