

## **Description of Additional Supplementary Files**

File Name: Supplementary Data 1

Description: Genes associated with immune signature in various types of databases.

File Name: Supplementary Data 2

Description: Predicted upstream regulators of genes in immune signature score.

File Name: Supplementary Data 3

Description: Immune signature scores of TCGA tumors and data availability

File Name: Supplementary Data 4

Description: Immune signature scores and progression-free survival of immunotherapy in TCGA skin cutaneous melanoma

File Name: Supplementary Data 5

Description: Cancer genes with frequent mutation or copy number alteration

File Name: Supplementary Data 6

Description: Somatic mutations significantly associated with immune signature score

File Name: Supplementary Data 7

Description: Amplified genes significantly associated with immune signature score

File Name: Supplementary Data 8

Description: Deleted genes significantly associated with immune signature score