

## **Description of Additional Supplementary Information**

**File Name:** Supplementary Data 1

**Description:** CHOICE sample data and patient clinical data

**File Name:** Supplementary Data 2

**Description:** CNV data generated from GISTIC2

**File Name:** Supplementary Data 3

**Description:** MutSigCV significant gene mutation of ADC tumors

**File Name:** Supplementary Data 4

**Description:** MutSigCV significant gene mutation of SQCC tumors

**File Name:** Supplementary Data 5

**Description:** Mutation frequency comparison of TCGA and CHOICE ADC tumors

**File Name:** Supplementary Data 6

**Description:** Mutation frequency comparison of TCGA and CHOICE SQCC tumors

**File Name:** Supplementary Data 7

**Description:** Fusion results summary

**File Name:** Supplementary Data 8

**Description:** Immune signature score calculated using ssGSEA

**File Name:** Supplementary Data 9

**Description:** Survival analysis results of immune signatures

**File Name:** Supplementary Data 10

**Description:** ADC tumor mutation calls MAF

**File Name:** Supplementary Data 11

**Description:** SQCC tumor mutation calls MA