Fig S1. Biomarker discovery workflow for early-stage cancers.
**Fig S2.** The relationship between the number of proteins included in the localization panel and the performance of the panel in the first prediction.

a. Males

![Box plot showing top 1 accuracy for males](image)

b. Females

![Box plot showing top 1 accuracy for females](image)
Fig S3. Distribution of proteins of the detection panel in tumour and normal plasma samples among males (a) and females (b).
Fig S4. The performance of the detection panel consisting of 5 proteins for unseen cancers among males (a) and females (b).
**Fig S5.** ROC curve (receiver operating characteristic curve) of localization panels by cancer for males (a) and females (b).

**Male**

- Male - Prostate - Panel size: 150 proteins
- Male - Esophagus - Panel size: 150 proteins
- Male - Pancreas - Panel size: 150 proteins
- Male - Breast - Panel size: 150 proteins
- Male - HCC - Panel size: 150 proteins
- Male - SCLC - Panel size: 150 proteins
- Male - Astrocytoma - Panel size: 150 proteins
- Male - Kidney - Panel size: 150 proteins
- Male - Stomach - Panel size: 150 proteins
- Male - Bladder - Panel size: 150 proteins
- Male - NSCLC - Panel size: 150 proteins
- Male - Thyroid - Panel size: 150 proteins
- Male - CRC - Panel size: 150 proteins
- Male - Osteosarcoma - Panel size: 150 proteins
Fig S6. The overall performance of the test among (a) males and (b) females.