**Supplementary Table 1.** SEER stage and AJCC 8th TNM stage of anal carcinoma

| SEER stage       | AJCC 8th TNM Stage | T    | N    | M    |
|------------------|--------------------|------|------|------|
| *In situ*        | 0                  | Tis  | N0   | M0   |
| Localized        | I                  | T1   | N0   | M0   |
|                  | II A               | T2   | N0   | M0   |
|                  | II B               | T3   | N0   | M0   |
| Regional         | III A              | T1-T2| N1   | M0   |
| Lymph node only  | III B              | T4   | N0   | M0   |
| Direct only      | III C              | T3-T4| N1   | M0   |
| Direct and LN    | IV                 | Any T| Any N| M1   |

SEER, Surveillance, Epidemiology and End Results; AJCC, American Joint Committee on Cancer; T, primary tumor; N, regional lymph node; M, distant metastasis; Tis, high-grade squamous intraepithelial lesion; T1, tumor 2 cm or less; T2, tumor more than 2 cm but not more than 5 cm; T3, tumor more than 5 cm; T4, tumor of any size invades adjacent organ(s), such as the vagina, urethra, bladder; N0, no regional lymph node metastasis; N1, metastasis in inguinal, mesorectal, internal iliac, or external iliac nodes; M0, no distant metastasis; M1, distant metastasis; LN, lymph node.