|  |  |  |  |
| --- | --- | --- | --- |
| Antibody (clone) | Supplier; Cat No; RRID | Antigen retrieval buffer | Dilution |
| Anti-CD8 (D8A8Y) | CST; 85336S; AB\_2800052 | Tris-EDTA (pH 9.0) | 1:200 |
| Anti-CD68 (D4B9C) | CST; 76437; AB\_2799882 | Citrate (pH 6.0) | 1:800 |
| Anti-CD47 (EPR21794) | Abcam; ab218810; NA | Tris-EDTA (pH 9.0) | 1:2000 |
| Anti-PD-L1 (E1L3N) | CST; 13684; AB\_2687655 | Tris-EDTA (pH 9.0) | 1:500 |
| Anti-SERPINB9 (7D8) | Bio-RAD; MCA2540GA; AB\_2186599 | Citrate (pH 6.0) | 1:100 |
| Anti-IRF1 (D5E4) | CST; 8478; AB\_10949108 | Citrate (pH 6.0) | 1:100 |
| Anti-STAT1 (D1K9Y) | CST: 14994; AB\_2737027 | Citrate (pH 6.0) | 1:3000 |
| Anti-HLA-A (HCA2) | Nordic & Mubio; MUB2036P; NA | Citrate (pH 6.0) | 1:4000 |
| Anti-HLA-B/C (HC-10) | Nordic & Mubio; MUB2037P; NA | Citrate (pH 6.0) | 1:4000 |
| Anti-β2M (D8P1H) | CST; 12851; AB\_2716551 | Citrate (pH 6.0) | 1:3000 |
| Anti-TAP1 (B-8) | Santa Cruz; c-376796; | Citrate (pH 6.0) | 1:50 |
| Anti-LMP2 (EPR22042) | Abcam; ab242061; NA | Tris-EDTA (pH 9.0) | 1:2000 |
| Anti-LMP7 (EPR14482(B)) | Abcam; ab180606; NA | Tris-EDTA (pH 9.0) | 1:1500 |

**Table S1. Antibody used for immunohistochemistry staining in this study.**

Cat No: Catalogue number; CST: Cell Signaling Technology; NA: not applicable.

|  |  |  |  |
| --- | --- | --- | --- |
| **Gene** | **ID** |  | **Sequences (5’ → 3’)** |
| ***IFI27*** | NM\_005532 | F | TGCTCTCACCTCATCAGCAGT |
|  |  | R | CACAACTCCTCCAATCACAACT |
| ***IFI44L*** | NM\_006820 | F | AGCCGTCAGGGATGTACTATAAC |
|  |  | R | AGGGAATCATTTGGCTCTGTAGA |
| ***IFIT1*** | NM\_001548 | F | TCAGGTCAAGGATAGTCTGGAG |
|  |  | R | AGGTTGTGTATTCCCACACTGTA |
| ***ISG15*** | NM\_005101 | F | CTCTGAGCATCCTGGTGAGGAA |
|  |  | R | AAGGTCAGCCAGAACAGGTCGT |
| ***RSAD2*** | NM\_080657 | F | TTGGACATTCTCGCTATCTCCT |
|  |  | R | AGTGCTTTGATCTGTTCCGTC |
| ***SIGLEC1*** | NM\_023068 | F | CCTCGGGGAGGAACATCCTT |
|  |  | R | AGGCGTACCCCATCCTTGA |
| ***BBC3*** | NM\_014417 | F | GACCTCAACGCACAGTACGAG |
|  |  | R | AGGAGTCCCATGATGAGATTGT |
| ***EI24*** | NM\_004879 | F | ATAGAGCGGAAGCAAGAGAGT |
|  |  | R | GCTGTTACCGACTGAAGCACA |
| ***FBXO22*** | NM\_147188 | F | CGGAGCACCTTCGTGTTGA |
|  |  | R | CACACACTCCCTCCATAAGCG |
| ***GADD45A*** | NM\_001924 | F | GAGAGCAGAAGACCGAAAGGA |
|  |  | R | CAGTGATCGTGCGCTGACT |
| ***SESN1*** | NM\_014454 | F | TGCTTTGGGCCGTTTGGATAA |
|  |  | R | TGTAGTGACGATAATGTAGGGGT |
| ***TRIAP1*** | NM\_016399 | F | AGGATTTCGCAAGTCCAGAA |
|  |  | R | GCTGATTCCACCCAAGTAT |
| ***DDB2*** | NM\_000107 | F | ACCTCCGAGATTGTATTACGCC |
|  |  | R | TCACATCTTCTGCTAGGACCG |
| ***FDXR*** | NM\_004110 | F | CAGCATTGGGTATAAGAGCCG |
|  |  | R | GGCCTGGCACATCCATAACC |
| ***PCNA*** | NM\_002592 | F | CCTGCTGGGATATTAGCTCCA |
|  |  | R | CAGCGGTAGGTGTCGAAGC |
| ***NOS2*** | NM\_000625 | F | TTCAGTATCACAACCTCAGCAAG |
|  |  | R | TGGACCTGCAAGTTAAAATCCC |
| ***IFNG*** | NM\_000619 | F | TCGGTAACTGACTTGAATGTCCA |
|  |  | R | TCGCTTCCCTGTTTTAGCTGC |
| ***TNF*** | NM\_000594 | F | AAGGTCAGCCAGAACAGGTCGT |
|  |  | R | GAGGACCTGGGAGTAGATGAG |
| ***IL1B*** | NM\_000576 | F | AGCTACGAATCTCCGACCAC |
|  |  | R | CGTTATCCCATGTGTCGAAGAA |
| ***IL12B*** | NM\_002187 | F | TGCCCATTGAGGTCATGGTG |
|  |  | R | CTTGGGTGGGTCAGGTTTGA |
| ***CXCL9*** | NM\_002416 | F | CCAGTAGTGAGAAAGGGTCGC |
|  |  | R | AGGGCTTGGGGCAAATTGTT |
| ***ARG1*** | NM\_000045 | F | TGGACAGACTAGGAATTGGCA |
|  |  | R | CCAGTCCGTCAACATCAAAACT |
| ***IL4*** | NM\_172374 | F | ACAGGAGAAGGGACGCCAT |
|  |  | R | GAAGCCCTACAGACGAGCTCA |
| ***IL10*** | NM\_000572 | F | TCAAGGCGCATGTGAACTCC |
|  |  | R | GATGTCAAACTCACTCATGGCT |
| ***TGFB1*** | NM\_000660 | F | TACCTGAACCCGTGTTGCTCTC |
|  |  | R | GTTGCTGAGGTATCGCCAGGAA |
| ***HPRT1*** | NM\_000194 | F | CCTGGCGTCGTGATTAGTGAT |
|  |  | R | AGACGTTCAGTCCTGTCCATAA |
| ***18SrRNA*** | NR\_003286.2 | F | GTAACCCGTTGAACCCCATT |
|  |  | R | CCATCCAATCGGTAGTAGCG |
| ***ACTB*** | NM\_001101 | F | GAGCTACGAGCTGCCTGACG |
|  |  | R | GTAGTTTCGTGGATGCCACAG |
| ***IFNβ*** | NM\_002176 | F | CAGCAGTTCCAGAAGGAGGA |
|  |  | R | AGCCAGGAGGTTCTCAACAA |

**Table S2. Primer sequences for SYBR green RT-qPCR**

|  |  |  |
| --- | --- | --- |
| **Characteristics** | **N** | **%** |
| **Age (median and range)** | 57 years (40-72) | |
| **Pathological types** |  |  |
| **SCC** | 30 | 100 |
| **FIGO staging system** |  |  |
| **I** | 3 | 10 |
| **II** | 13 | 43.3 |
| **III** | 12 | 36.7 |
| **IV** | 3 | 10.0 |
| **Tumor size (median and range)** | 5.0 cm (1.0-7.0) | |
| **Lymph node metastasis** |  |  |
| **NO** | 22 | 73.3 |
| **Yes** | 8 | 26.7 |
| **EBRT dose (median and range)** | 46 Gy (46-60) | |
| **Brachytherapy dose** | 24-32Gy/4-5 fractions | |
| **Concurrent chemotherapy** |  |  |
| **Platinum** | 16 | 53.3 |
| **Platinum + fluorouracil** | 14 | 46.7 |
| **Treatment response** |  |  |
| **CR** | 17 | 56.7 |
| **PR** | 13 | 43.3 |

**Table S3. Clinical characteristics of patients enrolled in this study.**

N: number; SCC: squamous cell carcinoma; EBRT: external beam radiotherapy; Gy: Gray; CR: complete regression; PR: partial regression.

|  |  |  |  |
| --- | --- | --- | --- |
| Markers | AUC | 95% CI | P |
| Tumor size | 0.75 | 0.57-0.94 | 0.019 |
| PLR (0F) | 0.75 | 0.56-0.95 | 0.020 |
| Change of LMP7 H score | 0.85 | 0.70-1.00 | 0.001 |
| Change of CD8 + T cells | 0.76 | 0.58-0.941 | 0.016 |

**Table S4. Parameters with significantly predictive value for partial response of tumors after concurrent chemoradiotherapy in cervical cancer patients.**

The predictive capacity of parameters was evaluated by using the receiver operating characteristic curve method.

AUC: area under the curve; CI: confidence interval; PLR: platelet to lymphocyte ratio; F: fraction.

|  |  |  |  |
| --- | --- | --- | --- |
| Markers | Cut-off | Sensitivity | Specificity |
| Tumor size | 5.3 | 0.54 | 0.94 |
| PLR (0F) | 162 | 0.69 | 0.82 |
| Change of LMP7 H score | -11.5 | 0.92 | 0.76 |
| Change of CD8 + T cells | -19.6 | 0.69 | 0.82 |

**Table S5. Optimal cut-offs of parameters for prediction of tumor response to concurrent chemoradiotherapy in cervical cancer patients.**

The optimal cut-off of parameters was determined by using the receiver operating characteristic curve followed by the Youden index analysis (sensitivity + specificity – 1).

PLR: platelet to lymphocyte ratio; F: fraction.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variables** | **Groups** | **N (%)** | **CR**  **N (%)** | **PR**  **N (%)** | **P** |
| **FIGO stage** | I-II | 16 (53%) | 12 (75%) | 4 (25%) | 0.0634 |
| III-IV | 14 (47%) | 5 (36%) | 9 (64%) |
| **Tumor size** | ≤ 5.3 cm | 22 (73%) | 16 (73%) | 6 (27%) | 0.0094 |
| > 5.3 cm | 8 (27%) | 1 (12%) | 7 (88%) |
| **PLR (0F)** | ≤ 162 | 18 (60%) | 14 (78%) | 4 (22%) | 0.0080 |
| > 162 | 12 (40%) | 3 (25%) | 9 (75%) |
| **Change of LMP7 H score** | ≤ -11.5 | 16 (53%) | 4 (25%) | 12 (75%) | < 0.0001 |
| > -11.5 | 14 (47%) | 13 (93%) | 1 (7%) |
| **Change of CD8+ T cells** | ≤ -19.5 | 12 (40%) | 3 (25%) | 9 (75%) | 0.0080 |
| > -19.5 | 18 (60%) | 14 (78%) | 4 (22%) |

**Table S6. Tumor response after concurrent chemoradiotherapy in different subgroups of cervical cancer patients.**

The ratio comparison of partial response (PR) and complete response (CR) between different subgroups of patients was performed by using the Fisher’s exact test.

N: number; PLR: platelet to lymphocyte ratio; F: fraction.

|  |  |  |  |
| --- | --- | --- | --- |
| Variables | Sig | Exp (B) | 95%CI |
| FIGO stage III/IV | 0.252 | 5.3 | 0.3-94.1 |
| Tumor size > 5.3 cm | 0.219 | 8.2 | 0.3-236.3 |
| Change of LMP7 H score ≤ -11.5 | 0.114 | 11.0 | 0.6-215.3 |
| Change of CD8+ T cell density ≤ -19.5 | 0.040 | 25.7 | 1.2-571.4 |

**Table S7. Multivariate analysis of variables associated with partial response to concurrent chemoradiotherapy in cervical cancer.**

The analysis was performed by using the binary logistic regression method.

PLR: platelet to lymphocyte ratio; F: fraction.