Supplementary Table 1A. Patient characteristics.

|  |  |  |  |
| --- | --- | --- | --- |
| **Number of patients** |  | **of 221** | **Fraction (%)** |
| Sex | Male | 180 | 81.4 |
| Female | 41 | 18.6 |
| UICC stage | II | 8 | 3.6 |
| III | 33 | 14.9 |
| IVa, b | 180 | 81.4 |
| Tumor localization | Oral cavity | 60 | 27.1 |
| Oropharynx | 126 | 57.0 |
| Hypopharynx | 35 | 15.8 |
| R status | Negative | 125 | 56.6 |
| Positive | 94 | 42.5 |
| Missing | 2 | 0.9 |
| ECE status | Negative | 103 | 46.6 |
| Positive | 118 | 53.4 |
| HPV16 DNA | Negative | 143 | 64.7 |
| Positive | 72 | 32.6 |
| Missing | 6 | 2.7 |
| IHC (protein) analyses | Performed | 195 | 88.2 |
| Missing | 26 | 11.8 |
| nanoString analyses | Performed | 196 | 88.7 |
| Missing | 25 | 11.3 |
| RT-PCR analyses | Performed | 196 | 88.7 |
| Missing | 25 | 11.3 |

Supplementary Table 1B. Hypoxia gene signatures.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Toustrup et al. | | Eustace et al. | | | |
| **15-gene signature** | | **26-gene signature** | | | |
| *ADM* |  | *ALDOA* | |  | |
| *ALDOA* |  | *ANGPTL4* | |  | |
| *ANKRD37* |  | *ANLN* | |  | |
| *BNIP3* |  | *BNC1* | |  | |
| *BNIP3L* |  | *C20orf20 (MRGBP)* | | | |
| *C3orf28 (FAM162A)* | | *CA9* | |  | |
| *EGLN3* |  | | *CDKN3* | |  | |
| *KCTD11* |  | | *COL4A6* | |  | |
| *LOX* |  | | *DCBLD1* | |  | |
| *NDRG1* |  | | *ENO1* | |  | |
| *P4HA1* |  | | *FAM83B* | |  | |
| *P4HA2* |  | | *FOSL1* | |  | |
| *PDK1* |  | | *GNAI1* | |  | |
| *PFKFB3* |  | | *HIG2 (HILPDA)* | | | |
| *SLC3A2* |  | | *KCTD11* | |  | |
|  |  | | *KRT17* | |  | |
| **Reference genes** |  | | *LDHA* | |  | |
| *ACTR3* |  | | *MPRS17* | |  | |
| *NDFIP1* |  | | *P4HA1* | |  | |
| *RPL37A* |  | | *PGAM1* | |  | |
|  |  | | *PGK1* | |  | |
|  |  | | *SDC1* | |  | |
|  |  | | *SLC16A1* | |  | |
|  |  | | *SLC2A1* | |  | |
|  |  | | *TPI1* | |  | |
|  |  | | *VEGFA* | |  | |
|  |  | |  | |  | |
|  |  | | **Reference genes** | |  | |
|  |  | | *B2M* | |  | |
|  |  | | *GNB2L1* | |  | |
|  |  | | *RPL11* | |  | |