**Supplementary Table 1.** Levels of PPP2CA mRNA and their diagnostic performance in hepatocellular carcinoma, based on data from 41 microarrays in the GEO and TCGA databases.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ID | n1 | n2 |  M ± SD(n1) |  M±SD(n2) | t | P1 | TP | FP | TN | FN | AUC | P2 |
| GSE10143 | 80 | 307 | 12.716  | ± | 0.875  | 11.782 | ± | 0.764 | 9.455  | <0.001 | 62 | 51 | 256 | 18 | 0.817  | <0.001 |
| GSE101685 | 24 | 8 | 9.193  | ± | 1.135  | 9.282 | ± | 0.303 | -0.217  | 0.829  | 15 | 2 | 6 | 9 | 0.625 | 0.296  |
| GSE101728 | 7 | 7 | 8.382  | ± | 0.286  | 7.879 | ± | 0.169 | 3.999  | 0.002  | 6 | 0 | 7 | 1 | 0.939  | 0.006  |
| GSE107170 | 119 | 188 | 9.868  | ± | 0.682  | 9.597 | ± | 0.565 | 3.781  | <0.001 | 75 | 78 | 110 | 44 | 0.618  | <0.001 |
| GSE112790 | 183 | 15 | 10.420  | ± | 0.438  | 10.29 | ± | 0.299 | 1.103  | 0.271  | 82 | 3 | 12 | 101 | 0.611  | 0.152  |
| GSE115019 | 12 | 12 | 2.045  | ± | 0.398  | 1.806 | ± | 0.334 | 1.590  | 0.126  | 7 | 2 | 10 | 5 | 0.667  | 0.166  |
| GSE121248 | 70 | 37 | 10.712  | ± | 0.351  | 10.36 | ± | 0.300 | 5.198  | <0.001 | 51 | 9 | 28 | 19 | 0.783  | <0.001 |
| GSE12941 | 10 | 10 | 9.646  | ± | 0.326  | 9.315 | ± | 0.393 | 2.047  | 0.056  | 9 | 4 | 6 | 1 | 0.680  | 0.174  |
| GSE131329 | 53 | 14 | 9.596  | ± | 0.438  | 9.577 | ± | 0.289 | 0.151  | 0.880  | 17 | 1 | 13 | 36 | 0.520  | 0.817  |
| GSE14323 | 55 | 60 | 9.105  | ± | 0.439  | 9.132 | ± | 0.283 | -0.386  | 0.700  | 12 | 8 | 52 | 43 | 0.490  | 0.858  |
| GSE14520 | 22 | 21 | 7.480  | ± | 0.259  | 7.456 | ± | 0.185 | 0.352  | 0.727  | 5 | 1 | 20 | 17 | 0.536  | 0.688  |
| GSE17548 | 17 | 20 | 7.515  | ± | 0.575  | 7.469 | ± | 0.334 | 0.305  | 0.763  | 12 | 10 | 10 | 5 | 0.553  | 0.583  |
| GSE33006 | 3 | 3 | 10.536  | ± | 0.074  | 10.731 | ± | 0.240 | -1.343  | 0.251  | 3 | 3 | 0 | 0 | 0.222  | 0.275  |
| GSE39791 | 72 | 72 | 9.842  | ± | 0.330  | 9.456 | ± | 0.218 | 8.273  | <0.001 | 23 | 1 | 71 | 49 | 0.840  | <0.001 |
| GSE41804 | 20 | 20 | 9.431  | ± | 0.375  | 9.548 | ± | 0.246 | -1.165  | 0.252  | 11 | 10 | 10 | 9 | 0.443  | 0.534  |
| GSE45050 | 6 | 10 | 10.358  | ± | 0.224  | 10.217 | ± | 0.214 | 1.251  | 0.232  | 3 | 1 | 9 | 3 | 0.700  | 0.193  |
| GSE46408 | 6 | 6 | 11.853  | ± | 0.764  | 10.922 | ± | 0.402 | 2.642  | 0.025  | 4 | 4 | 2 | 2 | 0.889  | 0.025  |
| GSE46444 | 88 | 48 | 12.338  | ± | 0.720  | 12.114 | ± | 0.829 | 1.571  | 0.120  | 79 | 34 | 14 | 9 | 0.556  | 0.283  |
| GSE50579 | 67 | 10 | 9.970  | ± | 0.485  | 9.335 | ± | 0.523 | 3.821  | <0.001 | 54 | 2 | 8 | 13 | 0.821  | 0.001  |
| GSE54236 | 81 | 80 | 9.905  | ± | 0.430  | 9.690 | ± | 0.348 | 3.483  | 0.001  | 27 | 8 | 72 | 54 | 0.642  | 0.002  |
| GSE54238 | 26 | 30 | 7.075  | ± | 0.914  | 6.469 | ± | 0.658 | 2.874  | 0.006  | 13 | 1 | 29 | 13 | 0.724  | 0.004  |
| GSE55092 | 49 | 91 | 6.778  | ± | 0.449  | 6.770 | ± | 0.315 | 0.115  | 0.909  | 10 | 4 | 87 | 39 | 0.492  | 0.884  |
| GSE56140 | 35 | 34 | 10.572  | ± | 0.313  | 10.387 | ± | 0.186 | 3.006  | 0.004  | 14 | 1 | 33 | 21 | 0.689  | 0.007  |
| GSE57957 | 39 | 39 | 11.607  | ± | 0.241  | 11.258 | ± | 0.182 | 7.207  | <0.001 | 34 | 10 | 29 | 5 | 0.873  | <0.001 |
| GSE59259 | 8 | 8 | 11.306  | ± | 0.468  | 11.496 | ± | 0.128 | -1.110  | 0.286  | 2 | 0 | 8 | 6 | 0.328  | 0.248  |
| GSE62232 | 81 | 10 | 10.113  | ± | 0.366  | 9.766 | ± | 0.307 | 2.878  | 0.005  | 69 | 3 | 7 | 12 | 0.764  | 0.007  |
| GSE64041 | 60 | 65 | 9.744  | ± | 0.343  | 9.541 | ± | 0.282 | 3.631  | <0.001 | 33 | 11 | 54 | 27 | 0.727  | <0.001 |
| GSE65372 | 39 | 15 | 13.099  | ± | 0.224  | 12.853 | ± | 0.916 | 1.029  | 0.320  | 39 | 12 | 3 | 0 | 0.431  | 0.434  |
| GSE6764 | 34 | 40 | 8.874  | ± | 0.334  | 8.488 | ± | 0.259 | 5.594  | <0.001 | 21 | 4 | 36 | 13 | 0.813  | <0.001 |
| GSE74656 | 5 | 5 | 8.042  | ± | 0.152  | 7.620 | ± | 0.166 | 4.206  | 0.003  | 5 | 1 | 4 | 0 | 0.720  | 0.251  |
| GSE76427 | 115 | 52 | 12.286  | ± | 0.345  | 12.122 | ± | 0.263 | 3.036  | 0.003  | 72 | 19 | 33 | 43 | 0.639  | 0.004  |
| GSE84005 | 38 | 38 | 10.490  | ± | 0.389  | 10.070 | ± | 0.335 | 5.045  | <0.001 | 30 | 10 | 28 | 8 | 0.791  | <0.001 |
| GSE84402 | 13 | 14 | 8.882  | ± | 0.893  | 8.233 | ± | 0.635 | 2.189  | 0.038  | 7 | 1 | 13 | 6 | 0.709  | 0.065  |
| GSE84598 | 22 | 22 | 11.729  | ± | 0.297  | 11.360 | ± | 0.208 | 4.766  | <0.001 | 17 | 18 | 4 | 5 | 0.847  | <0.001 |
| GSE87630 | 64 | 30 | 10.990  | ± | 0.535  | 10.851 | ± | 0.174 | 1.873  | 0.064  | 36 | 2 | 28 | 28 | 0.624  | 0.053  |
| GSE89377 | 40 | 67 | 10.614  | ± | 0.274  | 10.457 | ± | 0.180 | 3.216  | 0.002  | 25 | 12 | 55 | 15 | 0.690  | 0.001  |
| GSE98383 | 16 | 58 | 10.101  | ± | 0.509  | 9.541 | ± | 0.397 | 4.696  | <0.001 | 14 | 16 | 42 | 2 | 0.818  | <0.001 |
| GSE98620 | 36 | 13 | 14.072  | ± | 0.232  | 13.769 | ± | 0.986 | 1.097  | 0.293  | 36 | 12 | 1 | 0 | 0.442  | 0.541  |
| GSE45436 | 95 | 39 | 9.406  | ± | 0.655  | 9.011 | ± | 0.420 | 4.160  | <0.001 | 50 | 2 | 37 | 45 | 0.730  | <0.001 |
| GSE60502 | 18 | 18 | 7.057  | ± | 0.595  | 7.119 | ± | 0.547 | 2.309  | 0.027  | 16 | 9 | 9 | 2 | 0.694  | 0.046  |
| GSE36376 | 240  | 193  | 11.364  | ± | 0.420  | 10.548 | ± | 0.358 | 21.847  | <0.001 | 213 | 29 | 164 | 27 | 0.9290  | <0.001 |
| TCGA | 361  | 50  | 11.388  | ± | 0.360  | 11.328 | ± | 0.306 | 1.117  | 0.265  | 266 | 28 | 22 | 95 | 0.5580  | 0.182  |
| RNA-seq | 116 | 114 | 17.941 | ± | 6.162 | 12.363 | ± | 2.981 | 8.761 | <0.001 | 80 | 12 | 102 | 36 | 0.791 | <0.001 |

AUC, area under the receiver operating characteristic curve; GEO, Gene Expression Omnibus; HCC, Hepatocellular carcinoma; TCGA, The Cancer Genome Atlas; M ± SD, mean ± standard deviation; n1, Hepatocellular carcinoma (cases); n2, non-tumor (cases); TP, true positive (cases); TN, true negative (cases); FP, false positive (cases); FN, false negative (cases).