**Table S1. List, Source and CEA binding sites of Cell Lines used in the study**

List and source of cell lines used in the study, including duplicate cell lines isolated from the same patient (indexed with the same number). When applicable, the CEA expression (binding sites/cell) was calculated using Qifikit (in case of negative values, an arbitrary value of 1 was applied), n.a. = not applicable.

|  |  |  |
| --- | --- | --- |
| **Cell lines** | **Catalogue number, Source** | **CEA Binding Sites** |
| A549-hCEA | Generated in house by using A549 cells (ECACC 86012804) stably transfected with plasmid coding for human CEA) | 230000 |
| A549-cyCEA | Generated in house by using A549 cells (ECACC 86012804) stably transfected with plasmid coding for cyno CEA) | n.a. |
| C101 | ECACC: 12022901 | 1317 |
| C106 | ECACC:12022906 | 21761 |
| C10A1 | Cancer Immunogenetics Laboratory (W. Bodmer) | 3199 |
| C10S1 | Cancer Immunogenetics Laboratory (W. Bodmer) | 2955 |
| C125PM | ECACC: 12022909 | 45251 |
| C2BBe12 | ATCC® CRL-2102™ | 5241 |
| C32 | ECACC: 12022908 | 82218 |
| C70 | ECACC: 12022903 | 93171 |
| C75 | ECACC: 12022907 | 42904 |
| C80 | ECACC: 12022904 | 90471 |
| C99 | ECACC: 12022905 | 62275 |
| CACO22 | ATCC® HTB-37™ | 488 |
| CAR1 | JCRB0207 | 1 |
| CC20 | Kind gift from Dr. Anne R. Kinsella, Paterson Laboratories, Manchester M20 9BX, UK | 1 |
| CCD-841 | ATCC-CRL-1790 | 1987 |
| CCK81 | JCRB0208 | 257 |
| CCO7 | JT Immunotech, USA | 3648 |
| CL11 | DSMZ: ACC-467 | 1 |
| CL14 | DSMZ: ACC-504 | 31679 |
| CL40 | DSMZ: ACC-535 | 15765 |
| COCM1 | JCRB0257 | 7578 |
| COLO2013 | ATCC® CCL-224™ | 1 |
| COLO2053 | ATCC® CCL-222™ | 116 |
| COLO2063 | DSMZ: ACC-21 | 5840 |
| COLO320DM4 | ATCC® CCL-220™ | 1 |
| COLO320HSR4 | ATCC® CCL-220.1™ | 1 |
| COLO678 | DSMZ: ACC-194 | 1 |
| CW2 | RCB0778 | 1076 |
| CX15 | DSMZ: ACC-129 | 4750 |
| DLD16 | ATCC® CCL-221™ | 163 |
| GP2d7 | ECACC: 95090714 | 22983 |
| GP5d7 | ECACC: 95090715 | 7924 |
| HCA46 | Kind gift from Dr. S.Kirkland, Royal Postgrad School, London | 138043 |
| HCA7 | Kind gift from Dr. S.Kirkland, Royal Postgrad School, London | 1 |
| HCC2998 | Obtained from NCI-FREDERICK CANCER DCTD tumor/cell line repository, vial designation: 0507244 | 7070 |
| HCC56 | JCRB1037 | 57549 |
| HCT116 | ATCC® CCL-247™ | 264 |
| HCT156 | ATCC® CCL-225™ | 1 |
| HDC111 | Obtained from Prof. Manfred Schwab under an MTA, DKFZ, Hedelberg, Germany | 80629 |
| HDC114 | Obtained from Prof. Manfred Schwab under an MTA, DKFZ, Hedelberg, Germany | 43165 |
| HDC135 | Obtained from Prof. Manfred Schwab under an MTA, DKFZ, Hedelberg, Germany | 262 |
| HDC142 | Obtained from Prof. Manfred Schwab under an MTA, DKFZ, Hedelberg, Germany | 62684 |
| HDC143 | Obtained from Prof. Manfred Schwab under an MTA, DKFZ, Hedelberg, Germany | 12596 |
| HDC548 | Obtained from Prof. Manfred Schwab under an MTA, DKFZ, Hedelberg, Germany | 65032 |
| HDC578 | Obtained from Prof. Manfred Schwab under an MTA, DKFZ, Hedelberg, Germany | 35397 |
| HDC73 | Obtained from Prof. Manfred Schwab under an MTA, DKFZ, Hedelberg, Germany | 46454 |
| HDC8 | Obtained from Prof. Manfred Schwab under an MTA, DKFZ, Hedelberg, Germany | 1 |
| HDC82 | Obtained from Prof. Manfred Schwab under an MTA, DKFZ, Hedelberg, Germany | 186125 |
| HDC9 | Obtained from Prof. Manfred Schwab under an MTA, DKFZ, Hedelberg, Germany | 3913 |
| HPAFII | ATCC®CRL-1997 | 163816 |
| HRA19 | Kind gift from Dr. S.Kirkland, Royal Postgrad School, London | 17486 |
| HSC-F | Health Science Research Resources Bank, Japan #JCRB1164 | n.a. |
| HT295 | ATCC® HTB-38™ | 9563 |
| HT55 | ECACC: 85061105 | 126732 |
| ISRECO1 | Kind gift from Pr. Richard Hamelin, INSERM U434-CEPH, 75010 Paris, France | 1 |
| JHCOLOYI | RCB1706 | 16937 |
| JHSK-rec | RCB1724 | 1 |
| Jurkat-NFAT | #CS176501, Promega | n.a. |
| KM20L2 | Obtained from NCI-FREDERICK CANCER DCTD tumor/cell line repository, vial designation: 0503425 | 13610 |
| LIM1215 | Kind gift from Dr. Joan K. Heath, Ludwig Institute for Cancer Research, Australia | 20772 |
| LIM1863 | R.Whitehead, Australia | 38976 |
| LIM2405 | Kind gift from Dr. Joan K. Heath, Ludwig Institute for Cancer Research, Australia | 1296 |
| LOVO | ATCC® CCL-229™ | 27500 |
| LS1034 | Kind gift from Dr. Laurent Suardet, ISCRE, Switzerland | 69118 |
| LS123 | ATCC® CCL-255™ | 249 |
| LS174T9 | ECACC: 87060401 | 26226 |
| LS1809 | ECACC: 87021202 | 26418 |
| LS411 | Kind gift from Dr. Laurent Suardet, ISCRE, Switzerland | 7222 |
| LS513 | ATCC® CRL-2134™ | 31022 |
| MKN45 | DSMZ ACC 409 | 513333 |
| NCIH508 | ATCC® CCL-253™ | 77791 |
| NCIH5483 | ATCC® CCL-249™ | 1 |
| NCIH716 | ATCC® CCL-251™ | 434 |
| NCIH747 | ATCC® CCL-252™ | 628 |
| OUMS23 | JCRB1022 | 678 |
| OXCO1 | Kind gift from Prof. Vincenzo Cerundolo, Weatherall Institute of Molecular Medicine, University of Oxford, Oxford OX3 9DS | 366 |
| OXCO2 | Kind gift from Prof. Vincenzo Cerundolo, Weatherall Institute of Molecular Medicine, University of Oxford, Oxford OX3 9DS | 17504 |
| OXCO3 | Kind gift from Prof. Vincenzo Cerundolo, Weatherall Institute of Molecular Medicine, University of Oxford, Oxford OX3 9DS | 1 |
| PCJW | Kind gift from Prof. Christos Paraskeva, Department of Pathology and Microbiology, University of Bristol, UK | 51289 |
| PMFKO14 | RCB1426 | 14840 |
| RCM1 | JCRB0256 | 29844 |
| RKO | ATCC® CRL-2577™ | 1 |
| RW2982 | Kind gift from Dr John Mariadason, Montefiore Medical Center, 111 E210th St. Department of Oncology, Bronx NY | 3237 |
| RW7213 | Kind gift from Dr John Mariadason, Montefiore Medical Center, 111 E210th St. Department of Oncology, Bronx NY | 132205 |
| SKCO1 | ATCC® HTB-39™ | 151378 |
| SNU1181 | KCLB No. 01181.1 | 78265 |
| SNU1235 | KCLB No. 01235.1 | 3349 |
| SNU1411 | KCLB No. 01411.1 | 73515 |
| SNU1544 | KCLB No. 01544.1 | 249508 |
| SNU1684 | KCLB No. 01684 | 14167 |
| SNU1746 | KCLB No. 01746 | 81687 |
| SNU254 | KCLB No. 00254 | 11 |
| SNU479 | KCLB No. 00479.1 | 273 |
| SNU70 | KCLB No. 00070 | 5169 |
| SNU977 | KCLB No. 00977.1 | 1 |
| SNUC1 | ATCC® CRL-5972™ | 104273 |
| SNUC2B | ATCC® CCL-250™ | 16035 |
| SW1116 | ATCC® CCL-233™ | 79241 |
| SW1222 | ECACC: 12022910 | 31167 |
| SW1417 | ATCC® CCL-238™ | 9412 |
| SW1463 | ATCC® CCL-234™ | 41858 |
| SW403 | ATCC® CCL-230™ | 5534 |
| SW48 | ATCC® CCL-231™ | 3543 |
| SW48010 | ATCC® CCL-228™ | 4 |
| SW62010 | ATCC® CCL-227™ | 121 |
| SW837 | ATCC® CCL-235™ | 1 |
| SW948 | ATCC® CCL-237™ | 435 |
| T84 | ATCC® CCL-248™ | 33677 |
| TT1TKB | RCB1185 | 21071 |
| VACO10MS | Kind gift from J.McBain, VA Res.Ser. Madison, Wisconsin | 85052 |
| VACO429 | Obtained from Dr Elizabeth Zborowska under an MTA, Case Western reserve University, Cleveland, Ohio | 269 |
| VACO4A11 | Kind gift from J.McBain, VA Res.Ser. Madison, Wisconsin | 56980 |
| VACO4S11 | Kind gift from J.McBain, VA Res.Ser. Madison, Wisconsin | 216143 |
| VACO5 | Kind gift from J.McBain, VA Res.Ser. Madison, Wisconsin | 4917 |
| WIDR5 | Kind gift from J.McBain, VA Res.Ser. Madison, Wisconsin | 48 |
| Z138 | Gift from M.Dyer, Univ. of Leicester, Human Mantle Cell lymphoma | n.a. |