

**Supplemental Table 7.**

| <b>REAGENT</b>                   | <b>SOURCE</b>                              | <b>IDENTIFIER</b>                          |
|----------------------------------|--|--|
| <b>Antibodies</b>                |  |  |
| FOXO1                            | Custom made rabbit polyclonal (GL Biochem) | Epitope: Cys-RNDLMDGDTLDFNFDN VLPNQSFPHSVK |
| FOXO1                            | Cell Signaling Technology                  | Cat# 2880                                  |
| IRF4                             | Cell Signaling Technology                  | Cat# 4964                                  |
| PAX5                             | Cell Signaling Technology                  | Cat# 12709                                 |
| EBF1                             | Millipore Sigma                            | Cat# ABE1294                               |
| Beta actin (ACTB)                | Millipore Sigma                            | Cat# A2228                                 |
| FOXO3                            | Cell Signaling Technology                  | Cat# 12829                                 |
| V5                               | ThermoFisher Scientific                    | Cat# 377500                                |
| FLAG                             | Millipore Sigma                            | Cat# F1804                                 |
| Akt (pan)                        | Cell Signaling Technology                  | Cat# 4685                                  |
| p-Akt (S473)                     | Cell Signaling Technology                  | Cat# 4060                                  |
| Alpha Tubulin (TUBA)             | Abcam                                      | Cat# ab7291                                |
| EP300                            | Cell signaling Technology                  | Cat#54062                                  |
| Alexa 488 anti-mouse             | ThermoFisher Scientific                    | Cat# A21202                                |
| Alexa 488 anti-rabbit            | ThermoFisher Scientific                    | Cat# A21206                                |
| Goat anti-mouse IgG HRP          | ThermoFisher Scientific                    | Cat# 31430                                 |
| Goat anti-rabbit IgG HRP         | Cell Signaling Technology                  | Cat# 7074                                  |
| <b>Bacterial Strain</b>          |  |  |
| Stable Competent E. coli         | New England BioLabs                        | Cat# C3040H                                |
| <b>Chemicals and biologicals</b> |  |  |

|  |                          |                |
|--|--------------------------|----------------|
| Dulbecco's Modification of Eagle's Medium (DMEM)   | Corning                  | Cat# 10-013-CV |
| RPMI 1640  | ThermoFisher scientific  | Cat# 11875-093 |
| GlutaMAX   | ThermoFisher scientific  | Cat# 35050061  |
| Penicillin/Streptomycin                            | ThermoFisher scientific  | Cat# 10378016  |
| USDA approved fetal bovine serum (FBS)             | Avantor Seradigm         | Cat# 89510-186 |
| Typsin EDTA  | Corning                  | Cat# 25-053-CI |
| Puromycin  | InvivoGen                | Cat# anti-pr-1 |
| Blasticidin  | InvivoGen                | Cat# anti-bl-1 |
| Geneticin® Selective Antibiotic (G418 Sulfate)     | Thermo Fisher Scientific | Cat# 11811031  |
| Polyethyleneimine (PEI)                            | Polysciences Inc         | Cat# 23966-1   |
| Opti-MEM™ I Reduced Serum Medium                   | Thermo Fisher Scientific | Cat# 31985070  |
| SPRIselect Reagent                                 | Beckman Coulter          | Cat# B23317    |
| CloneAmp™ HiFi PCR Premix                          | Clontech                 | Cat# 639298    |
| Gibson Assembly Mix                                | New England BioLabs Inc. | Cat# E2611L    |
| Q5®High-Fidelity 2X mix                            | New England BioLabs Inc. | Cat# M0492L    |
| TaKaRa Ex Taq® DNA Polymerase                      | TAKARA                   | Cat# RR001C    |
| NucleoSpin Gel and PCR clean-up DNA extraction kit | Macherey-Nagel (MN)      | Cat# 740609.25 |
| NucleoBond Xtra Maxi kit                           | Macherey-Nagel (MN)      | Cat# 740414.50 |
| NucleoBond Xtra Midi kit                           | Macherey-Nagel (MN)      | Cat# 740410.50 |

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|--|----------------------------|----------------|
| NucleoSpin Plasmid EasyPure                      | Macherey-Nagel (MN)        | Cat# 74027.25  |
| NucleoSpin RNA kit                               | Macherey-Nagel (MN)        | Cat# 740955.25 |
| PowerUP SYBR Green Mix                           | ThermoFisher Scientific    | Cat# A25778    |
| RevertAid RT Reverse Transcription kit           | ThermoFisher Scientific    | Cat# K1691     |
| Dual-Luciferase® Reporter Assay System           | Promega                    | Cat# E1910     |
| Proteinase K                                     | Macherey-Nagel (MN)        | Cat# 740506    |
| 16% paraformaldehyde                             | ThermoFisher Scientific    | Cat# 28908     |
| Dynabeads® Protein G                             | ThermoFisher Scientific    | Cat# 1009D     |
| EGS  | ThermoFisher Scientific    | Cat# 21565     |
| Ultrapure™ Phenol                                | ThermoFisher Scientific    | Cat# 15509037  |
| 2-Mercaptoethanol                                | Sigma-Aldrich              | Cat# M6250     |
| Bovine Serum Albumin                             | Sigma-Aldrich              | Cat# A3059     |
| Pierce BCA protein assay kit                     | ThermoFisher Scientific    | Cat# 23225     |
| PVDF transfer membrane                           | ThermoFisher Scientific    | Cat# 88518     |
| Nitrocellulose Blotting Membrane                 | GE Healthcare Life science | Cat# 10600003  |
| SuperSignal West Pico Chemiluminescent substrate | ThermoFisher Scientific    | Cat# 34080     |
| Anti-DYKDDDDK Magnetic Agarose                   | ThermoFisher Scientific    | Cat#A36797     |
| Protein A Agarose Resin                          | Gold Biotechnology         | Cat#P-400-S    |
| <b>Experimental Models: Cell Lines</b>           |                            |                |
| CCMCL1   | Chen-Kiang Laboratory      | CVCL_RU10      |

|                         |                          |                  |
|-------------------------|--------------------------|------------------|
| JEKO1                   | ATCC                     | CRL-3006         |
| UPN1                    | Expasy                   | CVCL_A795        |
| MAVER-1                 | ATCC                     | CRL-3008         |
| Z-138                   | ATCC                     | CRL-3001         |
| MINO                    | ATCC                     | CRL-3000         |
| K562                    | ATCC                     | CRL-3343         |
| REC1                    | ATCC                     | CRL-3004         |
| LCL9001                 | Coriell Institute        | LCL-9001         |
| SP53                    | Expasy                   | CVCL_C122        |
| SEFA                    | OSU, Baiocchi Laboratory |                  |
| OCI-Ly1                 | Expasy                   | CVCL_1879        |
| THP1                    | ATCC                     | TIB-202-AP1-LUC2 |
| HEL                     | ATCC                     | TIB-180          |
| BJAB                    | ATCC                     | JHU-32           |
| DG75                    | ATCC                     | CRL-2625         |
| H1299                   | ATCC                     | CRL-5803         |
| HeLa                    | ATCC                     | CCL-2            |
| U2OS                    | ATCC                     | HTB-96           |
| HEK293T                 | ATCC                     | CRL-11268        |
| <b>Oligonucleotides</b> |                          |                  |
| sgFOXO1#1               | TCGTCCCGCCGCAACGCGTG     |                  |
| sgFOXO1#2               | GTCGCAGATCTACGAGTGGA     |                  |
| sgEBF1#1                | GCTGGCCCTGTCTGTCGTAG     |                  |

|             |                         |
|-------------|-------------------------|
| sgEBF1#2    | CCTGGCCCTCTACGACAGAC    |
| sgIRF4#1    | CAAGCAGGACTACAACCGCG    |
| sgIRF4#2    | GGTACTTGCCGCTGTGATC     |
| sgMYC#1     | GAGGCGAACACACAACGTCT    |
| sgMYC#2     | ACAACGTCTTGGAGCGCCAG    |
| sgPAX5#1    | TTGGATCCTCCAATTACCCC    |
| sgPAX5#2    | TCCCGGATGTAGTCCGCCAG    |
| sgSOX11#1   | CGATGAACGCGTTCATGGTA    |
| sgSOX11#2   | CGAGAAGATCCCGTTCATCC    |
| sgRELA#1    | GTGACAGTGCGGGACCCATC    |
| sgRELA#2    | AAGCGCATGCCCCGCTGCTT    |
| sgRELB#1    | AAGCGCATGCCGCGCTGCTT    |
| sgRELB#2    | ACTGCACCGACGGCATCTGC    |
| sgROSA      | GAAGATGGGCGGGAGTCTTC    |
| sgPCNA      | GGACTCGTCCCACGTCTCTT    |
| hFOXO1 -For | CTACGAGTGGATGGTCAAGAGC  |
| hFOXO1-Rev  | CCAGTTCCTTCATTCTGCACACG |
| hFOXO3-For  | TCTACGAGTGGATGGTGCGTTG  |
| hFOXO3-Rev  | CTCTTGCCAGTTCCTCATTCTG  |
| hFOXO4 -For | ACGAGTGGATGGTCCGTAAGT   |
| hFOXO4-Rev  | CCTTGATGAACTTGCTGTGCAGG |
| hCXCR4-For  | CTCCTCTTTGTCATCACGCTTCC |
| hCXCR4-Rev  | GGATGAGGACACTGCTGTAGAG  |

|             |                         |
|-------------|-------------------------|
| hCD79B-For  | AAGGCTGGCATGGAGGAAGATC  |
| hCD79B-Rev  | GTGCTCACCTACAGACCACTTC  |
| hEBF1-For   | ATGTCTCCGAGGCATCACAAGC  |
| hEBF1-Rev   | TCATGCTCGTGGTGACGGAGTT  |
| hIRF4-For   | GAACGAGGAGAAGAGCATCTTCC |
| hIRF4-Rev   | CGATGCCTTCTCGGAACTTTCC  |
| hPAX5-For   | CTTGCTCATCAAGGTGTCAGGC  |
| hPAX5-Rev   | TGGCGACCTTTGGTTTGGATCC  |
| hACTB-For   | CACCATTGGCAATGAGCGGTTC  |
| hACTB-Rev   | AGGTCTTTGCGGATGTCCACGT  |
| hPTPRC-For  | CTTCAGTGGTCCCATTGTGGTG  |
| hPTPRC-Rev  | CCACTTTGTTCTCGGCTTCCAG  |
| chTXNIP-For | CAGCGATCTCACTGATTGGT    |
| chTXNIP-Rev | GGAGGCGGAAACGTCTCTAT    |
| chCD79A-For | TCTCTCCACTCACAGCCTGA    |
| chCD79A-Rev | CAAACCCCACCCTACTTCCT    |

**Recombinant DNA**

|                       |           |                 |
|-----------------------|-----------|-----------------|
| pMD2.G                | Trono Lab | Addgene #12259  |
| psPAX2                | Trono Lab | Addgene #12260  |
| LentiCrisprV2         | 59        | Addgene #52961  |
| LRG2.1 (U6-sgRNA-GFP) | 60        | Addgene #108098 |
| pLu-3XFLAG-FOXO1r     |           | Homemade        |
| pLu-3XFLAG-EBF1r      |           | Homemade        |

|                           |  |            |
|---------------------------|--|------------|
| pLu-3XFLAG-IRF4r          |  | Homemade   |
| pLu-3XFLAG-PAX5r          |  | Homemade   |
| pLu-3XFLAG-FOXO1r H215R   |  | Homemade   |
| pLu-3xFLAG-EBF1           |  | Homemade   |
| pLX304-EBF1-V5            |  | Homemade   |
| pLu-3xFLAG-IRF4           |  | Homemade   |
| pLu-3xFLAG-PAX5           |  | Homemade   |
| pLu-3xF-FOXO3             |  | Homemade   |
| pLu-3xF-FOXO1r-3(N-C)_298 |  | Homemade   |
| pLu-3xF-FOXO3-1(N-C)_296  |  | Homemade   |
| pLu-3xF-FOXO1r-3(N-C)_TAD |  | Homemade   |
| pLu-3xF-FOXO3-1(N-C)_TAD  |  | Homemade   |
| pRL-CMV                   |  | Promega    |
| pGL4.26-4xIRE-luc2        |  | Accili Lab |

### **Software, Algorithms and Instruments**

|                                  |                         |   |
|----------------------------------|-------------------------|---|
| GraphPad Prism                   |                         | Version 9   |
| ImageJ                           | 61                      | <a href="https://imagej.nih.gov/ij/">https://imagej.nih.gov/ij/</a> |
| 7500 fast software               | ThermoFisher Scientific | Version2.3  |
| 7500 Fast Real-time PCR system   |                         | Cat# 4351106  |
| EVOS FL Cell Auto Imaging System | ThermoFisher Scientific | Cat# AMAFD1000  |
| LSR II Flow Cytometer            | BD Biosciences          | Cat# 642221   |
| M220 Focused-ultrasonicator      | Covaris                 |   |

|                              |                 |               |
|------------------------------|-----------------|---------------|
| IVIS Spectrum Image Analysis | PerkinElmer Inc | Cat# 124262   |
| Living Image®                | PerkinElmer Inc | Version 4.7.3 |