

**Supplemental Table 1A: Genes similarly up-regulated by live and lysed *B. burgdorferi* (Bb)**

| <b>Transcript</b> | <b>Symbol</b> | <b>Beads/Untreated</b> | <b>Live/Untreated</b> | <b>Lysate/Untreated</b> | <b>Live/Lysate</b> |
|-------------------|---------------|------------------------|-----------------------|-------------------------|--------------------|
| NM_002852.2       | PTX3          | 0.25                   | 38.16                 | 25.53                   | 1.49               |
| NM_005064.3       | CCL23         | 1.70                   | 62.86                 | 42.43                   | 1.48               |
| NM_002089.1       | CXCL2         | 1.21                   | 56.14                 | 38.96                   | 1.44               |
| NM_203440.2       | C10orf4       | 24.81                  | 28.07                 | 20.07                   | 1.40               |
| NM_005103.3       | FEZ1          | 0.71                   | 19.89                 | 14.37                   | 1.38               |
| NM_145057.2       | CDC42EP5      | 3.43                   | 57.36                 | 43.99                   | 1.30               |
| NM_005239.4       | ETS2          | 0.93                   | 7.20                  | 5.53                    | 1.30               |
| NM_152277.1       | DC-UbP        | 0.54                   | 2.66                  | 2.06                    | 1.29               |
| NM_004591.1       | CCL20         | 0.84                   | 104.40                | 80.73                   | 1.29               |
| NM_004004.3       | GJB2          | 0.60                   | 27.11                 | 21.01                   | 1.29               |
| NM_007115.2       | TNFAIP6       | 0.62                   | 14.36                 | 11.29                   | 1.27               |
| NM_004172.3       | SLC1A3        | 0.43                   | 18.61                 | 14.70                   | 1.27               |
| NM_002648.2       | PIM1          | 1.00                   | 3.03                  | 2.41                    | 1.26               |
| NM_182648.1       | BAZ1A         | 0.96                   | 2.01                  | 1.61                    | 1.25               |
| NM_006875.2       | PIM2          | 0.89                   | 5.88                  | 4.99                    | 1.18               |
| NM_002638.2       | PI3           | 1.67                   | 372.48                | 316.93                  | 1.18               |
| NM_014143.2       | CD274         | 0.35                   | 24.97                 | 21.98                   | 1.14               |
| NM_006636.2       | MTHFD2        | 0.84                   | 4.38                  | 3.89                    | 1.12               |
| NM_005080.2       | XBP1          | 0.94                   | 2.27                  | 2.03                    | 1.12               |
| NM_003234.1       | TFRC          | 0.96                   | 3.24                  | 2.92                    | 1.11               |
| NM_004120.3       | GBP2          | 0.98                   | 2.29                  | 2.07                    | 1.11               |
| NM_004776.2       | B4GALT5       | 0.83                   | 4.34                  | 3.93                    | 1.11               |
| NM_002827.2       | PTPN1         | 0.98                   | 1.97                  | 1.78                    | 1.10               |
| NM_022307.1       | ICA1          | 1.00                   | 16.40                 | 14.96                   | 1.10               |
| NM_032793.2       | MFSD2         | 1.77                   | 135.58                | 124.33                  | 1.09               |
| NM_006399.2       | BATF          | 1.27                   | 16.73                 | 15.44                   | 1.08               |
| NM_004295.2       | TRAF4         | 0.67                   | 38.67                 | 35.73                   | 1.08               |
| NM_213662.1       | STAT3         | 0.89                   | 1.98                  | 1.83                    | 1.08               |
| NM_003955.3       | SOCS3         | 1.46                   | 29.26                 | 27.10                   | 1.08               |
| NM_000610.3       | CD44          | 0.92                   | 3.01                  | 2.80                    | 1.08               |
| NM_006406.1       | PRDX4         | 0.93                   | 2.54                  | 2.37                    | 1.07               |
| NM_016327.2       | UPB1          | 0.83                   | 8.78                  | 8.22                    | 1.07               |
| NM_001710.4       | CFB           | 1.00                   | 308.69                | 289.22                  | 1.07               |
| NM_000584.2       | IL8           | 0.83                   | 9.76                  | 9.20                    | 1.06               |
| NM_024930.1       | ELOVL7        | 0.73                   | 50.63                 | 50.60                   | 1.00               |
| NM_016229.2       | CYB5R2        | 0.92                   | 234.10                | 235.57                  | 0.99               |
| NM_000636.2       | SOD2          | 0.45                   | 29.75                 | 30.25                   | 0.98               |
| NM_005558.3       | LAD1          | 0.29                   | 17.20                 | 17.56                   | 0.98               |
| NM_004595.2       | SMS           | 1.02                   | 2.58                  | 2.65                    | 0.97               |
| NM_018993.2       | RIN2          | 0.92                   | 11.13                 | 11.57                   | 0.96               |
| NM_002748.2       | MAPK6         | 0.98                   | 2.38                  | 2.49                    | 0.95               |

|                |            |      |       |        |      |
|----------------|------------|------|-------|--------|------|
| NM_014331.2    | SLC7A11    | 0.09 | 6.56  | 6.99   | 0.94 |
| NM_016354.3    | SLCO4A1    | 1.08 | 4.78  | 5.12   | 0.93 |
| NM_018465.1    | C9orf46    | 1.16 | 2.60  | 2.78   | 0.93 |
| NM_145804.1    | ABTB2      | 1.36 | 86.94 | 93.44  | 0.93 |
| NM_016542.2    | MASK       | 0.98 | 1.96  | 2.13   | 0.92 |
| NM_005746.1    | PBEF1      | 1.04 | 3.96  | 4.34   | 0.91 |
| NM_017819.1    | RG9MTD1    | 1.10 | 1.62  | 1.78   | 0.91 |
| NM_133436.1    | ASNS       | 1.15 | 1.98  | 2.18   | 0.91 |
| NM_003358.1    | UGCG       | 1.10 | 2.06  | 2.28   | 0.91 |
| NM_004998.2    | MYO1E      | 1.00 | 26.26 | 29.02  | 0.91 |
| NM_153186.3    | ANKRD15    | 0.85 | 12.77 | 14.22  | 0.90 |
| NM_005755.2    | EBI3       | 0.54 | 32.02 | 35.93  | 0.89 |
| NM_022767.2    | ISG20L1    | 1.02 | 3.48  | 3.91   | 0.89 |
| NM_000143.2    | FH         | 0.97 | 2.05  | 2.31   | 0.88 |
| NM_000617.1    | SLC11A2    | 0.97 | 2.72  | 3.08   | 0.88 |
| NM_002575.1    | SERPINB2   | 1.05 | 42.99 | 49.08  | 0.88 |
| NM_017746.1    | TEX10      | 1.03 | 1.62  | 1.86   | 0.87 |
| NM_002020.1    | FLT4       | 0.91 | 2.47  | 2.84   | 0.87 |
| NM_014976.1    | PDCD11     | 0.97 | 1.57  | 1.81   | 0.87 |
| NM_016234.3    | ACSL5      | 1.36 | 23.12 | 26.70  | 0.87 |
| NM_014570.3    | ARFGAP3    | 1.02 | 2.94  | 3.40   | 0.86 |
| NM_020117.8    | LARS       | 1.03 | 1.69  | 2.00   | 0.85 |
| NM_024490.2    | ATP10A     | 0.12 | 2.61  | 3.08   | 0.85 |
| NM_002423.3    | MMP7       | 0.32 | 27.88 | 33.15  | 0.84 |
| NM_033050.2    | SUCNR1     | 1.00 | 40.39 | 48.47  | 0.83 |
| NM_032737.2    | LMNB2      | 1.00 | 1.52  | 1.86   | 0.82 |
| NM_004566.2    | PFKFB3     | 1.11 | 3.64  | 4.52   | 0.80 |
| NM_002982.3    | CCL2       | 0.99 | 40.03 | 49.83  | 0.80 |
| NM_015934.3    | NOP5/NOP58 | 0.99 | 1.78  | 2.22   | 0.80 |
| NM_014878.3    | KIAA0020   | 1.00 | 2.34  | 2.97   | 0.79 |
| NM_002161.2    | IARS       | 0.88 | 1.99  | 2.53   | 0.79 |
| NM_032242.2    | PLXNA1     | 0.89 | 2.01  | 2.62   | 0.77 |
| NM_014777.1    | KIAA0133   | 1.32 | 23.88 | 31.15  | 0.77 |
| NM_005371.3    | METTL1     | 1.59 | 25.28 | 33.17  | 0.76 |
| NM_006372.3    | SYNCRIP    | 0.99 | 1.57  | 2.11   | 0.74 |
| NM_006273.2    | CCL7       | 0.82 | 12.98 | 17.53  | 0.74 |
| NM_004728.2    | DDX21      | 0.92 | 3.34  | 4.53   | 0.74 |
| NM_012258.2    | HEY1       | 7.59 | 93.44 | 128.00 | 0.73 |
| NM_001032281.1 | TFPI       | 0.37 | 14.68 | 20.27  | 0.72 |
| NM_004741.1    | NOLC1      | 0.35 | 6.61  | 9.18   | 0.72 |

Values shown correspond to a ratio determined between normalized gene intensity values obtained after a four-hour PBMC stimulation with either beads, live or lysed Bb (MOI 10:1), in proportion to gene intensity values from unstimulated cells. Live vs lysate ratio is also shown

**Supplemental Table 1B: Genes similarly down-regulated by live and lysed *B. burgdorferi* (Bb)**

| <b>Transcript</b> | <b>Symbol</b> | <b>Beads/Untreated</b> | <b>Live/Untreated</b> | <b>Lysate/Untreated</b> | <b>Live/Lysate</b> |
|-------------------|---------------|------------------------|-----------------------|-------------------------|--------------------|
| NM_024843.2       | CYBRD1        | 1.22                   | 0.03                  | 0.02                    | 1.47               |
| NM_002612.2       | PDK4          | 1.15                   | 0.04                  | 0.03                    | 1.38               |
| NM_012228.2       | MSRB2         | 1.09                   | 0.55                  | 0.43                    | 1.29               |
| NM_018837.2       | SULF2         | 0.94                   | 0.25                  | 0.21                    | 1.22               |
| NM_016081.2       | PALLD         | 1.22                   | 0.19                  | 0.16                    | 1.22               |
| NM_012387.1       | PADI4         | 1.09                   | 0.57                  | 0.47                    | 1.21               |
| NM_004567.2       | PFKFB4        | 1.20                   | 0.09                  | 0.08                    | 1.19               |
| NM_144687.1       | NALP12        | 1.08                   | 0.04                  | 0.03                    | 1.19               |
| NM_001031835.1    | PHKB          | 0.95                   | 0.63                  | 0.54                    | 1.18               |
| NM_207336.1       | ZNF467        | 1.09                   | 0.03                  | 0.03                    | 1.16               |
| NM_080546.2       | SLC44A1       | 1.05                   | 0.48                  | 0.41                    | 1.15               |
| NM_199418.1       | PRCP          | 1.00                   | 0.46                  | 0.40                    | 1.15               |
| NM_015076.3       | CDC2L6        | 1.02                   | 0.45                  | 0.40                    | 1.15               |
| NM_004695.2       | SLC16A5       | 1.00                   | 0.13                  | 0.11                    | 1.10               |
| NM_006416.2       | SLC35A1       | 1.07                   | 0.67                  | 0.63                    | 1.07               |
| NM_002162.2       | ICAM3         | 1.01                   | 0.65                  | 0.62                    | 1.05               |
| NM_024617.2       | ZCCHC6        | 1.00                   | 0.62                  | 0.60                    | 1.03               |
| NM_002085.2       | GPX4          | 1.07                   | 0.68                  | 0.66                    | 1.03               |
| NM_207514.1       | FLJ20186      | 1.05                   | 0.57                  | 0.55                    | 1.02               |
| NM_002576.3       | PAK1          | 0.94                   | 0.44                  | 0.44                    | 1.02               |
| NM_001031806.1    | ALDH3A2       | 1.05                   | 0.56                  | 0.55                    | 1.01               |
| NM_003331.3       | TYK2          | 1.01                   | 0.56                  | 0.55                    | 1.01               |
| NM_022355.1       | DPEP2         | 0.91                   | 0.27                  | 0.27                    | 1.01               |
| NM_170699.1       | GPBAR1        | 1.29                   | 0.13                  | 0.13                    | 1.00               |
| NM_130768.1       | ASZ1          | 0.09                   | 0.09                  | 0.09                    | 1.00               |
| NM_001466.2       | FZD2          | 0.57                   | 0.02                  | 0.02                    | 1.00               |
| NM_001557.2       | IL8RB         | 1.02                   | 0.02                  | 0.02                    | 1.00               |
| NM_000618.2       | IGF1          | 9.13                   | 0.68                  | 0.68                    | 1.00               |
| NM_015996.1       | SIDT2         | 1.06                   | 0.55                  | 0.55                    | 1.00               |
| NM_014033.2       | METTL7A       | 0.85                   | 0.03                  | 0.03                    | 1.00               |
| NM_152889.1       | CHST13        | 1.70                   | 0.02                  | 0.02                    | 1.00               |
| NM_007278.1       | GABARAP       | 0.99                   | 0.42                  | 0.42                    | 0.99               |
| NM_018353.3       | C14orf106     | 1.00                   | 0.48                  | 0.48                    | 0.99               |
| NM_001020820.1    | MYADM         | 0.86                   | 0.40                  | 0.41                    | 0.97               |
| NM_012199.2       | EIF2C1        | 0.93                   | 0.32                  | 0.33                    | 0.97               |
| NM_001005415.1    | 39143         | 1.01                   | 0.42                  | 0.44                    | 0.96               |
| NM_000416.1       | IFNGR1        | 0.98                   | 0.41                  | 0.43                    | 0.96               |

|                |            |      |      |      |      |
|----------------|------------|------|------|------|------|
| NM_002746.1    | MAPK3      | 1.10 | 0.48 | 0.50 | 0.96 |
| NM_170709.1    | SGK3       | 1.13 | 0.48 | 0.50 | 0.96 |
| NM_007032.3    | HRIHFB2122 | 1.00 | 0.29 | 0.31 | 0.95 |
| NM_016462.2    | TMEM14C    | 1.03 | 0.57 | 0.61 | 0.95 |
| XM_942125.1    | ULK1       | 1.13 | 0.41 | 0.43 | 0.95 |
| NM_005085.2    | NUP214     | 1.00 | 0.37 | 0.39 | 0.94 |
| NM_000147.2    | FUCA1      | 1.02 | 0.17 | 0.18 | 0.94 |
| NM_016332.2    | SEPX1      | 0.93 | 0.30 | 0.32 | 0.94 |
| NM_032356.3    | LSMD1      | 1.04 | 0.49 | 0.53 | 0.93 |
| NM_000698.2    | ALOX5      | 1.03 | 0.24 | 0.26 | 0.93 |
| NM_003505.1    | FZD1       | 1.39 | 0.05 | 0.06 | 0.92 |
| NM_006834.2    | RAB32      | 1.13 | 0.56 | 0.61 | 0.92 |
| NM_001032296.1 | STK24      | 0.98 | 0.45 | 0.49 | 0.92 |
| NM_139274.1    | ACSS2      | 1.06 | 0.33 | 0.36 | 0.92 |
| NM_004069.3    | AP2S1      | 1.00 | 0.55 | 0.61 | 0.92 |
| NM_001772.2    | CD33       | 1.02 | 0.29 | 0.32 | 0.91 |
| NM_000521.2    | HEXB       | 0.99 | 0.34 | 0.38 | 0.91 |
| NM_014210.2    | EVI2A      | 1.06 | 0.42 | 0.47 | 0.90 |
| NM_003255.4    | TIMP2      | 1.01 | 0.07 | 0.07 | 0.90 |
| NM_134426.1    | SLC26A6    | 1.07 | 0.22 | 0.24 | 0.89 |
| NM_030918.5    | SNX27      | 1.05 | 0.47 | 0.53 | 0.89 |
| NM_018434.4    | RNF130     | 1.00 | 0.35 | 0.39 | 0.89 |
| NM_001005290.2 | PSRC1      | 1.20 | 0.06 | 0.07 | 0.88 |
| NM_015995.2    | KLF13      | 0.99 | 0.56 | 0.64 | 0.88 |
| NM_014604.2    | TAX1BP3    | 0.99 | 0.43 | 0.50 | 0.88 |
| NM_014521.1    | SH3BP4     | 1.08 | 0.18 | 0.21 | 0.86 |
| NM_001012479.1 | GRN        | 1.14 | 0.27 | 0.32 | 0.85 |
| NM_002863.3    | PYGL       | 1.01 | 0.47 | 0.56 | 0.85 |
| NM_021649.3    | TICAM2     | 1.01 | 0.41 | 0.49 | 0.85 |
| NM_024527.3    | ABHD8      | 0.97 | 0.38 | 0.45 | 0.85 |
| NM_001375.2    | DNASE2     | 1.05 | 0.28 | 0.34 | 0.85 |
| NM_201428.1    | RTN3       | 2.37 | 0.08 | 0.09 | 0.84 |
| NM_006432.3    | NPC2       | 1.06 | 0.46 | 0.54 | 0.84 |
| NM_005730.2    | CTDSP2     | 1.12 | 0.55 | 0.66 | 0.84 |
| NM_006120.2    | HLA-DMA    | 0.99 | 0.39 | 0.47 | 0.83 |
| NM_000442.2    | PECAM1     | 1.02 | 0.12 | 0.14 | 0.83 |
| NM_023003.1    | TM6SF1     | 1.00 | 0.08 | 0.10 | 0.83 |
| NM_006195.4    | PBX3       | 1.00 | 0.52 | 0.64 | 0.82 |
| NM_000895.1    | LTA4H      | 1.01 | 0.24 | 0.29 | 0.82 |
| NM_021737.1    | CLCN6      | 1.01 | 0.49 | 0.60 | 0.82 |
| NM_006495.2    | EVI2B      | 1.03 | 0.33 | 0.40 | 0.82 |
| NM_001487.1    | BLOC1S1    | 0.93 | 0.55 | 0.69 | 0.81 |
| NM_002118.3    | HLA-DMB    | 1.08 | 0.34 | 0.42 | 0.81 |

|             |          |      |      |      |      |
|-------------|----------|------|------|------|------|
| NM_001064.1 | TKT      | 1.02 | 0.29 | 0.36 | 0.81 |
| NM_014059.1 | RGC32    | 0.98 | 0.44 | 0.54 | 0.81 |
| NM_144641.1 | PPM1M    | 0.93 | 0.43 | 0.54 | 0.80 |
| NM_000358.1 | TGFBI    | 0.90 | 0.08 | 0.10 | 0.80 |
| NM_145008.1 | YPEL4    | 1.08 | 0.25 | 0.31 | 0.80 |
| NM_003405.3 | YWHAH    | 0.95 | 0.25 | 0.32 | 0.78 |
| NM_000647.3 | CCR2     | 1.04 | 0.02 | 0.03 | 0.78 |
| NM_170773.1 | RASSF2   | 0.98 | 0.41 | 0.53 | 0.77 |
| NM_005819.4 | STX6     | 1.00 | 0.23 | 0.30 | 0.77 |
| NM_007074.2 | CORO1A   | 0.96 | 0.43 | 0.57 | 0.76 |
| NM_030912.1 | TRIM8    | 0.92 | 0.33 | 0.43 | 0.75 |
| NM_001909.3 | CTSD     | 1.07 | 0.25 | 0.33 | 0.75 |
| NM_005337.2 | HEM1     | 0.95 | 0.41 | 0.55 | 0.75 |
| NM_002087.2 | GRN      | 1.05 | 0.25 | 0.34 | 0.73 |
| NM_144673.2 | CMTM2    | 1.00 | 0.25 | 0.34 | 0.73 |
| NM_053054.2 | CATSPER1 | 1.05 | 0.20 | 0.27 | 0.72 |
| NM_001323.2 | CST6     | 0.90 | 0.00 | 0.00 | 0.72 |
| NM_006472.1 | TXNIP    | 0.95 | 0.38 | 0.53 | 0.72 |
| NM_145183.1 | PYCARD   | 1.02 | 0.20 | 0.28 | 0.71 |
| NM_005597.2 | NFIC     | 1.03 | 0.48 | 0.68 | 0.71 |

Values shown correspond to a ratio determined between normalized gene intensity values obtained after a four-hour PBMC stimulation with either beads, live or lysed Bb (MOI 10:1), in proportion to gene intensity values from unstimulated cells. Live vs lysate ratio is also shown