

Supplementary Materials: Assessment of Radiation Induced Therapeutic Effect and Cytotoxicity in Cancer Patients Based on Transcriptomic Profiling

Sajjad Karim, Zeenat Mirza, Adeel G. Chaudhary, Adel M. Abuzenadah, Mamdooh Gari and Mohammed H. Al-Qahtani

Table S3. Top functional annotations identified by GO analysis.

| GO ID | Function | Enrichment Score | Enrichment <i>p</i> -Value | % Genes in Group That Are Present |
|---------|--|------------------|----------------------------|-----------------------------------|
| 2376 | Immune system process | 36.9101 | 9.34×10^{-17} | 4.83696 |
| 46649 | Lymphocyte activation | 36.6413 | 1.22×10^{-16} | 10.8025 |
| 45321 | Leukocyte activation | 35.9238 | 2.5×10^{-16} | 9.64467 |
| 2682 | Regulation of immune system process | 32.6924 | 6.34×10^{-15} | 5.03018 |
| 30217 | T cell differentiation | 32.5937 | 6.99×10^{-15} | 19.4175 |
| 2694 | Regulation of leukocyte activation | 31.9539 | 1.33×10^{-14} | 8.53933 |
| 50865 | Regulation of cell activation | 31.3614 | 2.4×10^{-14} | 8.1761 |
| 51249 | Regulation of lymphocyte activation | 31.2634 | 2.65×10^{-14} | 9.06736 |
| 42110 | T cell activation | 30.6735 | 4.77×10^{-14} | 12.381 |
| 70489 | T cell aggregation | 30.6735 | 4.77×10^{-14} | 12.381 |
| 71593 | Lymphocyte aggregation | 30.4459 | 5.99×10^{-14} | 12.2642 |
| 70486 | Leukocyte aggregation | 29.7789 | 1.17×10^{-13} | 11.9266 |
| 1775 | Cell activation | 29.4058 | 1.7×10^{-13} | 7.06076 |
| 2696 | Positive regulation of leukocyte activation | 28.4235 | 4.53×10^{-13} | 9.96564 |
| 50867 | Positive regulation of cell activation | 27.6516 | 9.8×10^{-13} | 9.66667 |
| 2684 | Positive regulation of immune system process | 27.3908 | 1.27×10^{-12} | 5.83524 |
| 30098 | Lymphocyte differentiation | 27.2383 | 1.48×10^{-12} | 12.3656 |
| 51251 | Positive regulation of lymphocyte activation | 27.0592 | 1.77×10^{-12} | 10.1887 |
| 7159 | Leukocyte cell-cell adhesion | 26.5689 | 2.89×10^{-12} | 10.4 |
| 6955 | Immune response | 25.6371 | 7.34×10^{-12} | 4.89731 |
| 34109 | Homotypic cell-cell adhesion | 24.897 | 1.54×10^{-11} | 9.66543 |
| 50851 | Antigen receptor-mediated signaling pathway | 24.7816 | 1.73×10^{-11} | 11.5789 |
| 2768 | Immune response-regulating cell surface receptor signaling pathway | 23.4633 | 6.46×10^{-11} | 7.08333 |
| 2521 | Leukocyte differentiation | 23.458 | 6.49×10^{-11} | 9.43396 |
| 2429 | Immune response-activating cell surface receptor signaling pathway | 22.838 | 1.21×10^{-10} | 8.81356 |
| 2764 | Immune response-regulating signaling pathway | 21.1685 | 6.41×10^{-10} | 6.21762 |
| 46632 | Alpha-beta T cell differentiation | 21.015 | 7.47×10^{-10} | 28.5714 |
| 50776 | Regulation of immune response | 20.606 | 1.12×10^{-9} | 5.01567 |
| 34110 | Regulation of homotypic cell-cell adhesion | 19.2966 | 4.16×10^{-9} | 8.02676 |
| 2253 | Activation of immune response | 19.2894 | 4.2×10^{-9} | 6.63717 |
| 2757 | Immune response-activating signal transduction | 18.9626 | 5.82×10^{-9} | 6.91358 |
| 50863 | Regulation of T cell activation | 18.914 | 6.11×10^{-9} | 8.18505 |
| 46631 | Alpha-beta T cell activation | 18.5652 | 8.65×10^{-9} | 22.7273 |
| 1903037 | Regulation of leukocyte cell-cell adhesion | 18.3818 | 1.04×10^{-8} | 7.95848 |
| 50778 | Positive regulation of immune response | 17.9194 | 1.65×10^{-8} | 5.71429 |
| 50853 | B cell receptor signaling pathway | 17.6644 | 2.13×10^{-8} | 20.8333 |
| 2250 | Adaptive immune response | 17.5544 | 2.38×10^{-8} | 9.62567 |
| 50870 | Positive regulation of T cell activation | 16.9042 | 4.56×10^{-8} | 9.23077 |
| 48583 | Regulation of response to stimulus | 16.6195 | 6.06×10^{-8} | 3.10453 |
| 22407 | Regulation of cell-cell adhesion | 16.6074 | 6.13×10^{-8} | 6.75676 |
| 34112 | Positive regulation of homotypic cell-cell adhesion | 16.5917 | 6.23×10^{-8} | 9.04523 |
| 1903039 | Positive regulation of leukocyte cell-cell adhesion | 16.5149 | 6.72×10^{-8} | 9 |
| 22409 | Positive regulation of cell-cell adhesion | 15.8545 | 1.3×10^{-7} | 8.18966 |
| 42101 | T cell receptor complex | 15.362 | 2.13×10^{-7} | 40 |
| 50852 | T cell receptor signaling pathway | 15.3487 | 2.16×10^{-7} | 10 |

Table S3. *Cont.*

| GO ID | Function | Enrichment Score | Enrichment <i>p</i> -Value | % Genes in Group That Are Present |
|-------|---|------------------|----------------------------|-----------------------------------|
| 16337 | Single organismal cell-cell adhesion | 15.0338 | 2.96×10^{-7} | 6.04651 |
| 48584 | Positive regulation of response to stimulus | 14.9962 | 3.07×10^{-7} | 3.56037 |
| 45785 | Positive regulation of cell adhesion | 14.1967 | 6.83×10^{-7} | 6.31868 |
| 45058 | T cell selection | 14.0637 | 7.80×10^{-7} | 25 |
| 98602 | Single organism cell adhesion | 13.9996 | 8.32×10^{-7} | 5.72687 |