

**Supplementary Table 1: Reagents and Proteins**

| <b>Protein or Reagent</b>                      | <b>Clone Name or Catalog Number</b> | <b>Function</b>                               | <b>Manufacturer</b> |
|--|-------------------------------------|---|---------------------|
| Tipiracil Hydrochloride                        | S3731                               | Inhibitor of Thymidine phosphorylase          | Selleck             |
| Imiquimod                                      | tlrl-imq                            | TLR7 Agonist                                  | Invivogen           |
| Recombinant mouse GMCSF                        | 315-03                              | Growth factor used for DC generation          | PeptoTech           |
| Recombinant mouse IL-4                         | 214-14                              | Growth factor used for DC generation          | PeptoTech           |
| Recombinant human GMCSF                        | 300-03                              | Growth factor used for DC generation          | PeptoTech           |
| Recombinant human IL-4                         | 200-04                              | Growth factor used for DC generation          | PeptoTech           |
| ProLong™ Gold Antifade Mountant with DAPI      | P36935                              | DNA stain                                     | Invitrogen          |
| Cytoplasmic and nuclear protein extraction Kit | GX-6010AR                           | Isolation of cytoplasmic and nuclear fraction | Genetix Biotech     |
| Membrane protein extraction kit                | 89842                               | Isolation of membrane protein                 | Invitrogen          |

**Supplementary Table 2 - Antibodies and reagents used in flow cytometry.**

| Target or Reagent                       | Clone Name or Catalog Number | Dilution or Working Concentration | Manufacturer      |
|---|------------------------------|-----------------------------------|-------------------|
| Live/Dead Kit                           | L10119                       | 1:200                             | Life Technologies |
| anti-CD-3                               | 100203                       | 2 µg/mL                           | Biolegend         |
| anti-CD4                                | RM4-5                        | 1:500                             | Biolegend         |
| anti-CD8                                | 53-6.7                       | 1:500                             | Biolegend         |
| anti-CD11b                              | M1/70                        | 1:500                             | Biolegend         |
| anti-CD11c                              | N418                         | 1:500                             | Biolegend         |
| anti-CD-25                              | PC61                         | 1:200                             | Biolegend         |
| anti-CD-40                              | 5C3                          | 1:20                              | Biolegend         |
| anti-CD44                               | IM7                          | 1:200                             | Biolegend         |
| anti-CD45                               | A20                          | 1:200                             | Biolegend         |
| anti-CD62L                              | MEL-14                       | 1:100                             | Biolegend         |
| anti-CD64                               | X54-5/7.1                    | 1:100                             | Biolegend         |
| anti-CD69                               | H1.2F3                       | 1:50                              | Biolegend         |
| anti-CD80                               | 16-10A1                      | 1:1500                            | Biolegend         |
| anti-CD86                               | PO3                          | 1:100                             | Biolegend         |
| anti-Granzyme B                         | GB11b                        | 1:20                              | Biolegend         |
| anti-CTLA4                              | MA5-23842                    | 1:500                             | Invitrogen        |
| anti-FOXP3                              | MF-14                        | 1:100                             | Biolegend         |
| anti-IFN-γ                              | XMG1.2                       | 1:200                             | Invitrogen        |
| anti-LAG-3                              | C9B7W                        | 1:200                             | Biolegend         |
| anti-mouse H2Kd                         | SF1-1.1                      | 1:500                             | Biolegend         |
| anti-I-A/I-E                            | M5/114.15.2                  | 1:500                             | Biolegend         |
| Gr-I                                    | RB6-8C5                      | 1:50                              | Biolegend         |
| anti-NKG2D                              | CX5                          | 1:500                             | Biolegend         |
| anti-PD1                                | 29F.1A12                     | 1:200                             | Biolegend         |
| anti-TIGIT                              | 1G9                          | 1:200                             | Biolegend         |
| anti-TIM3                               | B8.2C12                      | 1:100                             | Biolegend         |
| anti-TNF-α                              | 6B8                          | 1:50                              | Biolegend         |
| anti-Neuropilin-1                       | 3725                         | 1:500                             | CST               |
| anti-TGF-β                              | MAB1835                      | 1:500                             | R&D               |
| anti-TYMP                               | PA5-116481                   | 1:200                             | Invitrogen        |
| Fc-blocker                              | 93                           | 1:100                             | Biolegend         |
| Brilliant Violet 421™ Goat anti-rat IgG | Poly4054                     | 1:500                             | Biolegend         |
| FITC anti-rat IgG1 Antibody             | MRG2a-83                     | 1:500                             | Biolegend         |
| PE anti-rat IgG1                        | MRG1-58                      | 1:500                             | Biolegend         |
| Alexa Fluor® 594 anti-rat IgG1          | MRG1-58                      | 1:500                             | Biolegend         |
| Alexa Fluor® 647 anti-rat IgG2a         | MRG2a-83                     | 1:500                             | Biolegend         |
| APC/Fire™ 750 Goat anti-rat IgG         | Poly4054                     | 1:500                             | Biolegend         |
| Pacific Blue™ anti-mouse IgD            | 11-26c.2a                    | 1:500                             | Biolegend         |
| Alexa Fluor® 488 anti-mouse IgD         | 11-26c.2a                    | 1:500                             | Biolegend         |
| PE anti-mouse IgD                       | 11-26c.2a                    | 1:500                             | Biolegend         |
| APC anti-mouse IgD                      | 11-26c.2a                    | 1:500                             | Biolegend         |
| Brilliant Violet 711™ anti-mouse IgD    | 11-26c.2a                    | 1:500                             | Biolegend         |
| DyLight™ 594 Goat anti-hamster          | Poly4055                     | 1:500                             | Biolegend         |
| Mouse Th1/Th2 Panel (8-plex)            | 741053                       | 1:500                             | Biolegend         |

| <b>Supplementary Table 3 - ELISA Kits used</b> |                         |                     |
|--|-------------------------|---------------------|
| <b>Target Cytokines</b>                        | <b>Catalouge Number</b> | <b>Manufacturer</b> |
| Mouse IFN                                      | 430804                  | Biolegend           |
| Mouse IL2                                      | DY402-05                | R&D Systems         |
| Mouse IL6                                      | 431304                  | Biolegend           |
| Mouse IL10                                     | 431414                  | Biolegend           |
| Mouse IL-12 (p70)                              | 433604                  | Biolegend           |
| Mouse TGF                                      | DY1679-05               | R&D Systems         |
| Mouse TNF                                      | 430904                  | Biolegend           |
| Mouse VEGF                                     | DY493-05                | R&D Systems         |

**Supplementary Table 4 - Primary and Secondary antibodies used in IFC & IHC.**

| <b>Antibodies</b>  | <b>Clone Name or Catalog Number</b> | <b>Dilution</b> | <b>Manufacturer</b>       |
|--|-------------------------------------|-----------------|---------------------------|
| anti-TYMP  | MA5-13542                           | 1:100           | Invitrogen                |
| anti-Calreticulin  | 12238S                              | 1:100           | Cell Signaling Technology |
| anti-HMGB1   | H9664                               | 1:100           | Sigma-Aldrich             |
| anti-CD8   | 372902                              | 1:100           | Biologend                 |
| anti-PD1   | 135203                              | 1:100           | Biologend                 |
| anti-CD31  | 102401                              | 1:100           | Biologend                 |
| anti-TYMP  | MA5-13542                           | 1 µg/mL         | Invitrogen                |
| anti-Ki-67   | 14-5698-82                          | 2.5 µg/mL       | Invitrogen                |
| Anti-rabbit IgG (H+L),<br>F(ab') <sub>2</sub> Fragment (Alexa<br>Fluor® 488 Conjugate) | 4412S                               | 1:2000          | Cell Signaling Technology |
| Anti-rabbit IgG (H+L),<br>F(ab') <sub>2</sub> Fragment (Alexa<br>Fluor® 594 Conjugate) | 8889S                               | 1:2000          | Cell Signaling Technology |
| FITC anti-rat IgG1 Antibody  | MRG2a-83                            | 1:1000          | Biologend                 |
| Alexa Fluor® 594 anti-rat IgG1   | MRG1-58                             | 1:1000          | Biologend                 |

**Supplementary Table 5 - Primary and Secondary antibodies used in immunoblot.**

| <b>Antibodies</b>               | <b>Clone Name or Catalog Num</b> | <b>Dilution</b> | <b>Manufacturer</b>       |
|---------------------------------|----------------------------------|-----------------|---------------------------|
| anti-Calreticulin               | 12238S                           | 1:1000          | Cell Signaling Technology |
| anti-H3                         | 4499S                            | 1:1000          | Cell Signaling Technology |
| anti-HMGB1                      | 6893S                            | 1:1000          | Cell Signaling Technology |
| anti- $\beta$ -Actin            | 3700                             | 1:1000          | Cell Signaling Technology |
| anti-PDL1                       | 155402                           | 1:1000          | Biolegend                 |
| E-cadherin                      | 14472S                           | 1:1000          | Cell Signaling Technology |
| anti-TYMP                       | MA5-13542                        | 1:1000          | Invitrogen                |
| Goat anti-Mouse IgG (H+L) HRP   | 31430                            | 1:10000         | Invitrogen                |
| Goat anti-Rat IgG (H+L), HRP    | 31470                            | 1:10000         | Invitrogen                |
| Goat anti-Rabbit IgG (H+L), HRP | 31460                            | 1:10000         | Invitrogen                |

| <b>Supplementary Table 6 - Critical commercial assays Kits</b> |                     |                       |
|--|---------------------|-----------------------|
| <b>Kits</b>  | <b>Manufacturer</b> | <b>Catalouge/Code</b> |
| CellTiter 96® (MTT) Kit  | Promega             | G4000                 |
| CytoTox 96® Cytotoxicity Assay                                 | Promega             | G1780                 |
| Annexin V-FITC apoptosis kit                                   | Biologend           | 640914                |
| Click-iT™ Plus TUNEL   | Invitrogen          | C10617                |
| CellRox oxidative stress reagent                               | Molecular Probes    | C10444                |
| Novolink Polymer Detection                                     | Leica Biosystems    | RE7140-K              |

| <b>Supplementary Table 7 - Experimental models: Cell lines and Animals</b> |                             |   |
|--|-----------------------------|---|
| <b>Cell Line/Animal</b>  | <b>Source</b>               | <b>Cat. No/Identifier</b>   |
| CT26   | ATCC                        | CRL-2638  |
| MC-38  | Kerafast                    | ENH204-FP   |
| HCT116   | ATCC                        | CCL-247   |
| HCT15  | ATCC                        | CCL-225   |
| CaCo2  | ATCC                        | HTB-37  |
| C1271  | ATCC                        | CRL-1616  |
| HepG2  | ATCC                        | HB-8065   |
| 4T1  | ATCC                        | CRL-2539  |
| MCF7   | ATCC                        | HTB-22  |
| BALB/cAnNCrl   | Charles River Laboratories. | <a href="http://www.hylascobio.com/index.htm">http://www.hylascobio.com/index.htm</a><br> |

| <b>Supplementary Table 8: Software and algorithms</b> |   |  |
|---|---|--|
| <b>Software/Packages</b>                              | <b>Source</b>                             | <b>Identifier</b>  |
| FlowJo™ v10.8   | BD Bioscience                             | <a href="https://www.flowjo.com/solutions/flowjo">https://www.flowjo.com/solutions/flowjo</a>                                  |
| OriginLab V2021b                                      | Originlab                                 | <a href="https://www.originlab.com/">https://www.originlab.com/</a>  |
| GraphPad Prism 9<br>MIPAR                             | GraphPad Software<br>MIPAR Image Analysis | <a href="https://www.graphpad.com/">https://www.graphpad.com/</a><br><a href="https://www.mipar.us/">https://www.mipar.us/</a> |
| Leica Application Suite X<br>myImageAnalysis™         | Leica Microsystems<br>Thermo Scientific   | LAS_X_Core_3.7.4_23463<br>Cat No. 62237  |