

## The IDO1 selective inhibitor epacadostat enhances dendritic cell immunogenicity and lytic ability of tumor antigen-specific T cells

### Supplementary Materials

#### Supplemental Table S1: Complete list of 123 peripheral immune cell subsets analyzed by flow cytometry

##### 1. Total CD4<sup>+</sup> T cells

- PD-L1<sup>+</sup> CD4
- PD-1<sup>+</sup> CD4
- CTLA-4<sup>+</sup> CD4
- Tim-3<sup>+</sup> CD4
- 41BB<sup>+</sup> CD4
- ICOS<sup>+</sup> CD4
  - PD-L1<sup>+</sup> ICOS<sup>+</sup> CD4
  - PD-1<sup>+</sup> ICOS<sup>+</sup> CD4
- Total naïve (CCR7<sup>+</sup>CD45RA<sup>+</sup>) CD4
  - PD-L1<sup>+</sup> naïve CD4
  - PD-1<sup>+</sup> naïve CD4
  - CTLA-4<sup>+</sup> naïve CD4
  - Tim-3<sup>+</sup> naïve CD4
  - 41BB<sup>+</sup> naïve CD4
- Total central memory (CCR7<sup>+</sup>CD45RA<sup>-</sup>) CD4
  - PD-L1<sup>+</sup> CM CD4
  - PD-1<sup>+</sup> CM CD4
  - CTLA-4<sup>+</sup> CM CD4
  - Tim-3<sup>+</sup> CM CD4
  - 41BB<sup>+</sup> CM CD4
- Total effector memory (CCR7<sup>-</sup>CD45RA<sup>-</sup>) CD4
  - PD-L1<sup>+</sup> EM CD4
  - PD-1<sup>+</sup> EM CD4
  - CTLA-4<sup>+</sup> EM CD4
  - Tim-3<sup>+</sup> EM CD4
  - 41BB<sup>+</sup> EM CD4
- Total EMRA (CCR7<sup>-</sup>CD45RA<sup>+</sup>) CD4
  - PD-L1<sup>+</sup> EMRA CD4
  - PD-1<sup>+</sup> EMRA CD4
  - CTLA-4<sup>+</sup> EMRA CD4
  - Tim-3<sup>+</sup> EMRA CD4
  - 41BB<sup>+</sup> EMRA CD4

##### 2. Total CD8<sup>+</sup> T cells

- PD-L1<sup>+</sup> CD8
- PD-1<sup>+</sup> CD8
- CTLA-4<sup>+</sup> CD8
- Tim-3<sup>+</sup> CD8
- 41BB<sup>+</sup> CD8
  - Total naïve (CCR7<sup>+</sup>CD45RA<sup>+</sup>) CD8
  - PD-L1<sup>+</sup> naïve CD8
  - PD-1<sup>+</sup> naïve CD8
  - CTLA-4<sup>+</sup> naïve CD8
  - Tim-3<sup>+</sup> naïve CD8
  - 41BB<sup>+</sup> naïve CD8
- Total central memory (CCR7<sup>+</sup>CD45RA<sup>-</sup>) CD8
  - PD-L1<sup>+</sup> CM CD8
  - PD-1<sup>+</sup> CM CD8
  - CTLA-4<sup>+</sup> CM CD8
  - Tim-3<sup>+</sup> CM CD8
  - 41BB<sup>+</sup> CM CD8
- Total effector memory (CCR7<sup>-</sup>CD45RA<sup>-</sup>) CD8
  - PD-L1<sup>+</sup> EM CD8
  - PD-1<sup>+</sup> EM CD8
  - CTLA-4<sup>+</sup> EM CD8
  - Tim-3<sup>+</sup> EM CD8
  - 41BB<sup>+</sup> EM CD8
- Total EMRA (CCR7<sup>-</sup>CD45RA<sup>+</sup>) CD8
  - PD-L1<sup>+</sup> EMRA CD8
  - PD-1<sup>+</sup> EMRA CD8
  - CTLA-4<sup>+</sup> EMRA CD8
  - Tim-3<sup>+</sup> EMRA CD8
  - 41BB<sup>+</sup> EMRA CD8

##### 3. Total Tregs

- PD-L1<sup>+</sup> Tregs
- PD-1<sup>+</sup> Tregs

- CTLA-4<sup>+</sup> Tregs
- ICOS<sup>+</sup> Tregs
- CD45RA<sup>+</sup> Tregs
- CD49d<sup>-</sup> Tregs

#### 4. Total B cells

- PD-L1<sup>+</sup> B cells
- PD-1<sup>+</sup> B cells

#### 5. Total NK

- PD-L1<sup>+</sup> NK
- PD-1<sup>+</sup> NK
- Tim-3<sup>+</sup> NK
- Total mature (CD16<sup>+</sup> CD56<sup>dim</sup>) NK
  - PD-L1<sup>+</sup> mature NK
  - PD-1<sup>+</sup> mature NK
  - Tim-3<sup>+</sup> mature NK
- Total functional intermediate (CD16<sup>+</sup> CD56<sup>br</sup>) NK
  - PD-L1<sup>+</sup> functional intermediate NK
  - PD-1<sup>+</sup> functional intermediate NK
  - Tim-3<sup>+</sup> functional intermediate NK
- Total immature (CD16<sup>-</sup> CD56<sup>br</sup>) NK
  - PD-L1<sup>+</sup> immature NK
  - PD-1<sup>+</sup> immature NK
  - Tim-3<sup>+</sup> immature NK
- Total unconventional (CD16<sup>-</sup> CD56<sup>dim</sup>) NK
  - PD-L1<sup>+</sup> unconventional NK
  - PD-1<sup>+</sup> unconventional NK
  - Tim-3<sup>+</sup> unconventional NK

#### 6. Total NK-T

- PD-L1<sup>+</sup> NK-T
- PD-1<sup>+</sup> NK-T
- Tim-3<sup>+</sup> NK-T

#### 7. Total cDC

- PD-L1<sup>+</sup> cDC
- PD-1<sup>+</sup> cDC
- CD83<sup>+</sup> cDC
- Tim-3<sup>+</sup> cDC

#### 8. Total pDC

- PD-L1<sup>+</sup> pDC
- PD-1<sup>+</sup> pDC
- CD83<sup>+</sup> pDC
- Tim-3<sup>+</sup> pDC

#### 9. Total MDSC

- PD-L1<sup>+</sup> MDSC
- PD-1<sup>+</sup> MDSC
- CD16<sup>+</sup> MDSC
- Total monocytic (CD14<sup>+</sup> CD15<sup>-</sup>) MDSC
  - PD-L1<sup>+</sup> mMDSC
  - PD-1<sup>+</sup> mMDSC
  - CD16<sup>+</sup> mMDSC
- Total granulocytic (CD14<sup>-</sup> CD15<sup>+</sup>) MDSC
  - PD-L1<sup>+</sup> gMDSC
  - PD-1<sup>+</sup> gMDSC
  - CD16<sup>+</sup> gMDSC
- Total lineage negative (CD14<sup>-</sup> CD15<sup>-</sup>) MDSC
  - PD-L1<sup>+</sup> lin neg MDSC
  - PD-1<sup>+</sup> lin neg MDSC
  - CD16<sup>+</sup> lin neg MDSC

Nine standard subsets were identified as well as 114 subsets relating to maturation and function within the standard subsets. cDC, conventional dendritic cells; CM, central memory; CTLA-4, cytotoxic T lymphocyte-associated protein-4; EM, effector memory; EMRA, terminally differentiated effector memory; FoxP3, forkhead box P3; gMDSCs, granulocytic mononuclear derived suppressor cells; ICOS, inducible T cell co-stimulator; lin neg MDSCs, lineage negative MDSCs; mMDSCs, monocytic MDSCs; NK, natural killer; pDC, plasmacytoid DC; PD-1, programmed cell death-1; PD-L1, programmed cell death ligand-1; Tim-3, T cell immunoglobulin and mucin domain-3; Tregs, regulatory T cells.

**Supplemental Table S2: Antibodies used for 4 panel stain to identify 123 peripheral immune cell subsets**

Fluorochrome	Panel 1	Panel 2	Panel 3	Panel 4
<b>FITC</b>	<u>CTLA-4</u> (A3.4H2.H12, LS Bio)	<u>CTLA-4</u> (A3.4H2.H12, LS Bio)	<u>CD3</u> (HIT3a, Biolegend)	<u>CD15</u> (HI98, Biolegend)
<b>PE</b>	<u>PD-1</u> (EH12.2H7, Biolegend)	<u>PD-1</u> (EH12.2H7, Biolegend)	<u>PD-1</u> (EH12.2H7, Biolegend)	<u>PD-1</u> (EH12.2H7, Biolegend)
<b>PerCP-Cy5.5</b>	<u>41BB</u> (4B4-1, Biolegend)	<u>ICOS</u> (C398.4A, Biolegend)	<u>CD303</u> (201A, Biolegend)	<u>CD19</u> (HIB19, Biolegend)
<b>PECy7</b>	<u>PD-L1</u> (MIH1, BD)	<u>PD-L1</u> (MIH1, BD)	<u>PD-L1</u> (MIH1, BD)	<u>PD-L1</u> (MIH1, BD)
<b>BV421</b>	<u>Tim-3</u> (F38-2E2, Biolegend)	<u>FoxP3</u> (206D, Biolegend)	<u>Tim-3</u> (F38-2E2, Biolegend)	<u>CD14</u> (M5E2, Biolegend)
<b>V500</b>	<u>CCR7</u> (G043H7, Biolegend)	<u>CD49d</u> (9F10, Biolegend)	<u>CD83</u> (HB15e, BD)	<u>CD16</u> (3G8, Biolegend)
<b>BV605</b>	<u>CD4</u> (OKT4, Biolegend)	<u>CD4</u> (OKT4, Biolegend)	<u>CD56</u> (HCD56, Biolegend)	<u>HLA-DR</u> (L243, Biolegend)
<b>Dapi</b>	<u>Live/Dead</u> (Invitrogen)	<u>Live/Dead</u> (Invitrogen)	<u>Live/Dead</u> (Invitrogen)	<u>Live/Dead</u> (Invitrogen)
<b>APC</b>	-	<u>CD25</u> (M-A251, Biolegend)	<u>HLA-DR</u> (L243, Biolegend)	<u>CD33</u> (WM53, Biolegend)
<b>AF700</b>	<u>CD45RA</u> (HI100, Biolegend)	<u>CD45RA</u> (HI100, Biolegend)	<u>CD16</u> (3G8, Biolegend)	-
<b>APC Cy7</b>	<u>CD8</u> (RPA-T8, Biolegend)	<u>CD127</u> (eBioRDR5, Ebioscience)	<u>CD1c</u> (L161, Biolegend)	<u>CD11b</u> (M1/70, Biolegend)

Panel 1: CD4<sup>+</sup> T cells, CD8<sup>+</sup> T cells; Panel 2: Tregs; Panel 3: NK, NK-T, cDC, pDC; Panel 4: B cells, MDSC. Intracellular antibodies are underlined, and clones and companies are listed under each antibody.

cDC, conventional dendritic cells; CTLA-4, cytotoxic T lymphocyte-associated protein-4; FoxP3, forkhead box P3; HLA, human leukocyte antigen; ICOS, inducible T cell co-stimulator; MDSC, myeloid derived suppressor cells; NK, natural killer; pDC, plasmacytoid DC; PD-1, programmed cell death-1; PD-L1, programmed cell death ligand-1; Tim-3, T cell immunoglobulin and mucin domain-3; Tregs, regulatory T cells.