

Table S1. Compared biochemical and molecular parameters associated with MDSC characterization functions in lung LDNs, HDNs, aged neutrophils and non-aged neutrophils

| Class  | Parameters   | Lung-LDN     | Lung-HDN     | Lung-Aged Neu | Lung-Non-Aged Neu | Detection technology |
|--|--|--------------|--------------|---------------|-------------------|----------------------|
| Immune response  | Inhibition of T cell proliferation                                 | ++++         | +            | ++            | ++                | Flow                 |
|  | Inhibition of IFN- $\gamma$ production by CD8 <sup>+</sup> T cells | +++          | -            | -             | ++                | Flow                 |
|  | Inhibition of IL-2 production by CD4 <sup>+</sup> T cells          | +++          | +            | +             | +                 | Flow                 |
| Transcription factors and apoptotic regulators                     | $\downarrow$ $\kappa$ IRF8*  | $\downarrow$ | $\uparrow$   | -             | -                 | Flow                 |
|  | Phospho-STAT3*   | $\uparrow$   | -            | -             | -                 | Flow                 |
|  | cEBP/ $\beta$ *  | $\uparrow$   | -            | $\uparrow$    | -                 | RT-PCR               |
|  | S100A8/9*  | $\uparrow$   | $\downarrow$ | $\downarrow$  | -                 | RT-PCR               |
|  | RB   | -            | -            | $\uparrow$    | -                 | RT-PCR               |
|  | Phospho-STAT5  | -            | -            | $\downarrow$  | -                 | Flow                 |
|  | ROR/RORC1  | $\uparrow$   | -            | $\uparrow$    | -                 | Flow                 |
|  | sXBP, CHOP   | -            | $\downarrow$ | $\uparrow$    | -                 | RT-PCR               |
| Genes and molecules contributing to the immune-regulatory activity | ARG1*  | $\uparrow$   | $\uparrow$   | $\downarrow$  | -                 | Functional activity  |
|  | NOS2/NO*   | -            | -            | -             | -                 | Functional activity  |
|  | NOX2/ROS*  | $\uparrow$   | $\downarrow$ | $\downarrow$  | -                 | Flow                 |
|  | PNT/RNS*   | $\uparrow$   | -            | $\downarrow$  | -                 | Functional activity  |
|  | VEGF   | -            | $\uparrow$   | $\uparrow$    | -                 | RT-PCR               |
|  | PGE2   | $\uparrow$   | -            | -             | -                 | ELISA                |
| Cytokines and receptors  | PD-L1  | -            | -            | $\uparrow$    | -                 | RT-PCR               |
|  | IL-10*   | -            | -            | $\uparrow$    | -                 | RT-PCR               |
|  | TGF- $\beta$ *   | $\uparrow$   | -            | $\uparrow$    | -                 | RT-PCR               |
|  | IL-4R (CD124)*   | $\uparrow$   | -            | $\downarrow$  | -                 | RT-PCR               |

\*Parameters crucial for MDSC biology and, thus, for their identification.