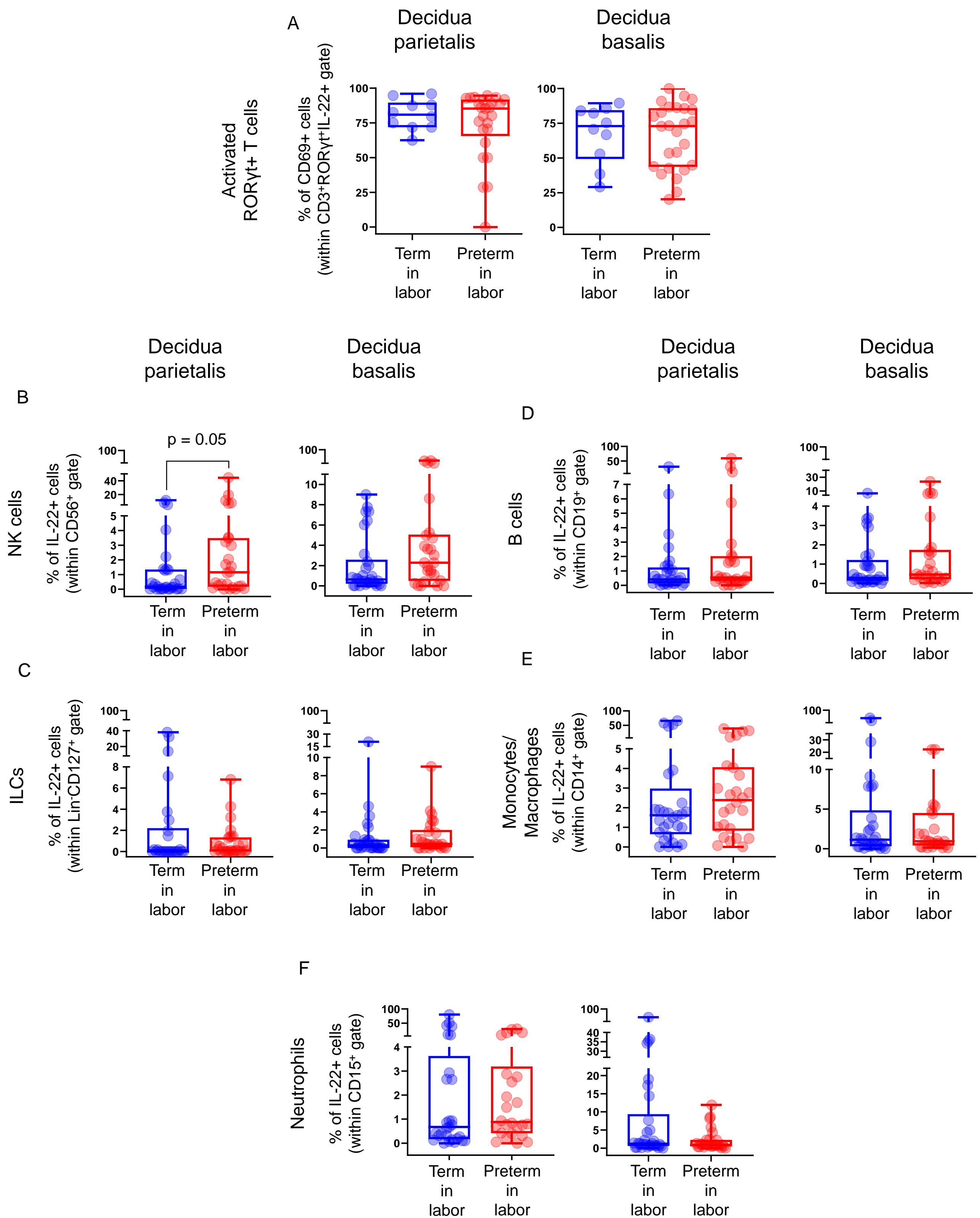
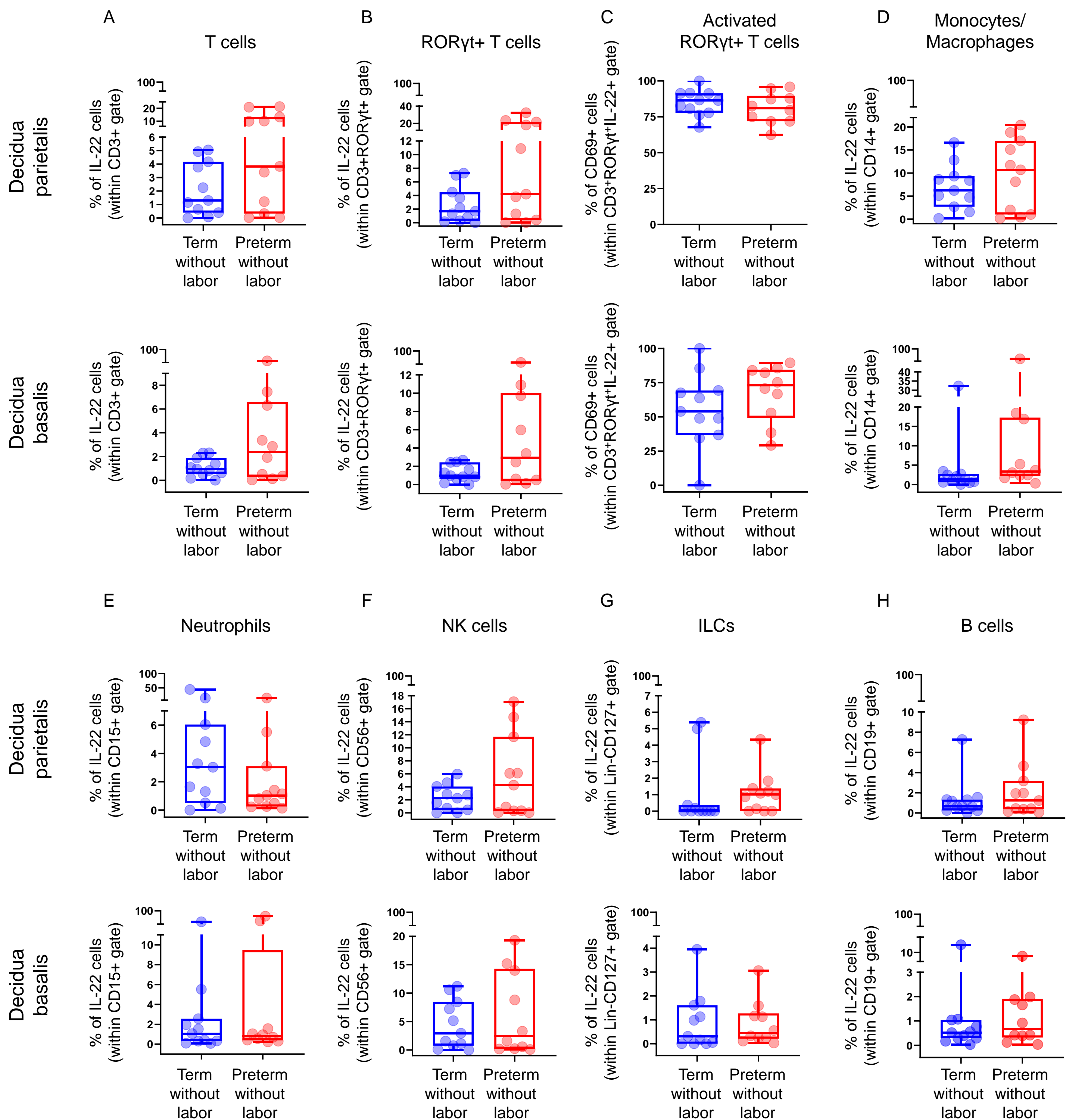


Supplemental Table I. List of antibodies used for immunophenotyping.

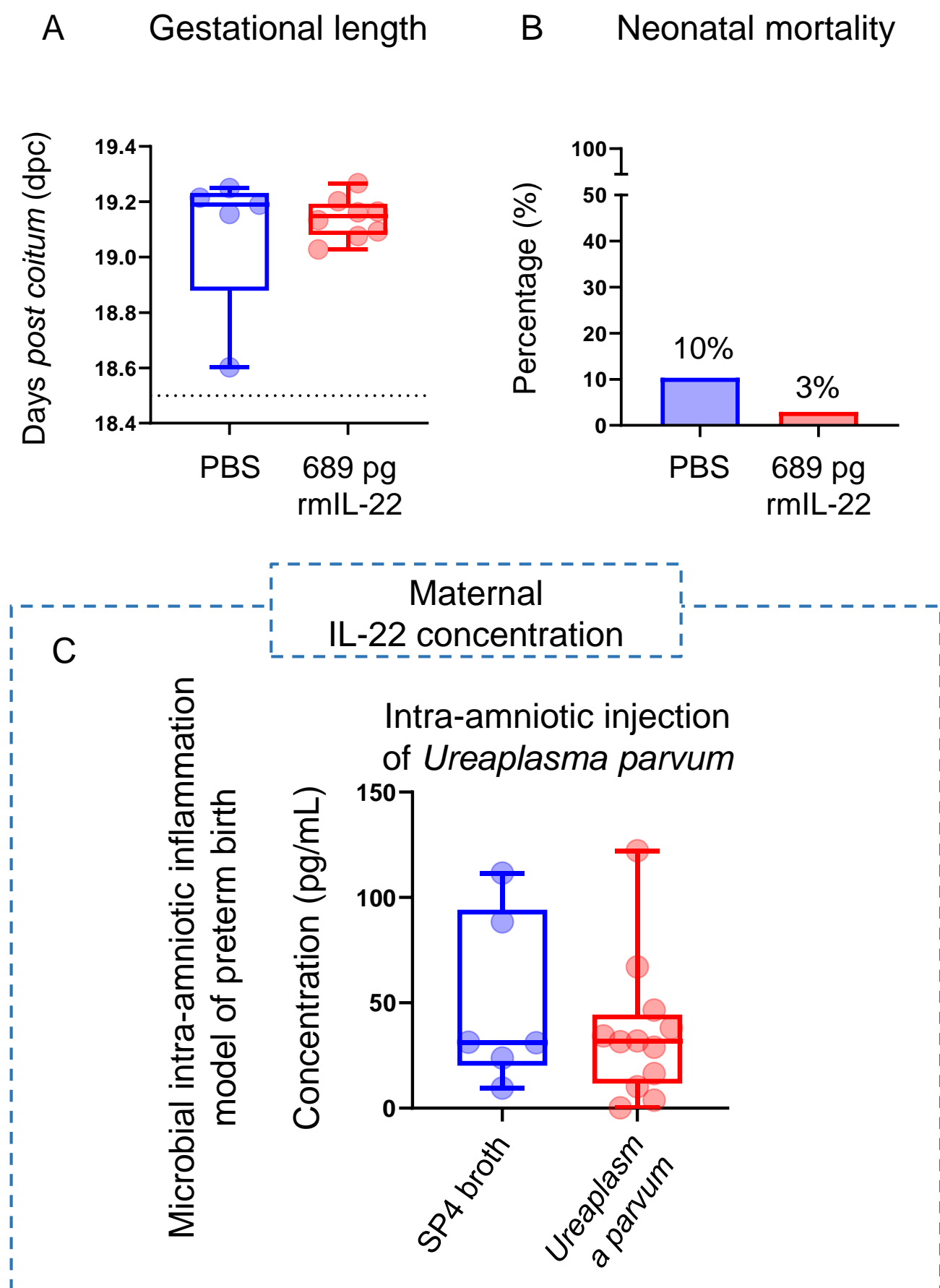
| Anti-human antibodies | | | | |
|------------------------------|---------------------|--------------|----------------|-----------------------------------|
| Cell marker | Fluorochrome | Clone | Company | Isotype |
| CD3 ϵ | BV650 | OKT3 | Biologend | Mouse IgG2a, κ |
| CD19 | BUV737 | SJ25C1 | BD Biosciences | Mouse BALB/c IgG1, κ |
| CD14 | BUV395 | M ϕ P9 | BD Biosciences | Mouse BALB/c IgG2b, κ |
| CD15 | BV605 | W6D3 | BD Biosciences | Mouse IgG ₁ , κ |
| CD56 | PE-Cy7 | B159 | BD Biosciences | Mouse IgG ₁ , κ |
| CD11b | PE-Cy5 | ICRF44 | BD Biosciences | Mouse IgG ₁ , κ |
| CD127 | BV711 | HIL-7R-M21 | BD Biosciences | Mouse IgG ₁ , κ |
| CD69 | Alexa Fluor 700 | FN50 | BD Biosciences | Mouse IgG ₁ , κ |
| ROR γ T | APC | 600380 | R&D Systems | Mouse IgG2b |
| IL-13 | FITC | B-P6 | eBiosciences | Mouse / IgG1 |
| IL-5 | BV421 | TRFK5 | Biologend | Rat IgG1, κ |
| IFN- γ | APC-Cy7 | 4S.B3 | Biologend | Mouse IgG ₁ , κ |
| IL-17A | BV786 | N49-653 | BD Biosciences | Mouse IgG ₁ , κ |
| IL-22 | PerCP-eFluor710 | 22URTI | eBiosciences | Mouse IgG ₁ , κ |



Supplemental Figure 1. Immunophenotyping of cellular sources of IL-22 in the human decidua of women with term or preterm labor. **(A)** Proportions of CD69⁺ROR γ t⁺ IL-22⁺ T cells (CD14⁺CD15⁻CD19⁻CD3⁺) in the decidua parietalis of women with TIL (n = 29) or PTL (n = 26) and decidua basalis of women with TIL (n = 30) or PTL (n = 26). **(B)** Proportions of IL-22⁺ NK cells (CD14⁺CD15⁻CD3⁻CD19⁻CD56⁺) in the decidua parietalis of women with TIL (n = 29) or PTL (n = 26) and decidua basalis of women with TIL (n = 30) or PTL (n = 26). **(C)** Proportions of IL-22⁺ innate lymphoid cells (ILCs, CD14⁺CD15⁻CD3⁻CD19⁻CD11b⁻CD56⁻(Lin⁻)CD127⁺) in the decidua parietalis of women with TIL (n = 29) or PTL (n = 26) and decidua basalis of women with TIL (n = 30) or PTL (n = 26). **(D)** Proportions of IL-22⁺ B cells (CD14⁺CD15⁻CD3⁻CD19⁺) in the decidua parietalis of women with TIL (n = 29) or PTL (n = 26) and decidua basalis of women with TIL (n = 30) or PTL (n = 26). **(E)** Proportions of IL-22⁺ monocytes/macrophages (CD15⁻CD14⁺) in the decidua parietalis of women with TIL (n = 29) or PTL (n = 26) and decidua basalis of women with TIL (n = 30) or PTL (n = 26). **(F)** Proportions of IL-22⁺ neutrophils (CD14⁺CD15⁺) in the decidua parietalis of women with TIL (n = 29) or PTL (n = 26) and decidua basalis of women with TIL (n = 30) or PTL (n = 26). P-values were determined by Mann-Whitney U-tests. Data are shown as scatter plots with medians, interquartile ranges, and min/max ranges. Demographic and clinical characteristics of the study population are shown in Table I.



Supplemental Figure 2. Immunophenotyping of cellular sources of IL-22 in the human decidua of women who delivered term or preterm without labor. **(A)** Proportions of IL-22⁺ T cells (CD14⁻CD15⁻CD19⁻CD3⁺) in the decidua parietalis of women who delivered at term without labor (TNL, n = 11) or preterm without labor (PTNL, n = 11) and decidua basalis of women with TNL (n = 11) or PTNL (n = 10). **(B)** Proportions of IL-22⁺RORγt⁺ T cells (CD14⁻CD15⁻CD19⁻CD3⁺) in the decidua parietalis of women with TNL (n = 11) or PTNL (n = 11) and decidua basalis of women with TNL (n = 11) or PTNL (n = 10). **(C)** Proportions of CD69⁺IL-22⁺RORγt⁺ T cells (CD14⁻CD15⁻CD19⁻CD3⁺) in the decidua parietalis of women with TNL (n = 11) or PTNL (n = 11) and decidua basalis of women with TNL (n = 11) or PTNL (n = 10). **(D)** Proportions of IL-22⁺ monocytes/macrophages (CD15⁻CD14⁺) in the decidua parietalis of women with TNL (n = 11) or PTNL (n = 11) and decidua basalis of women with TNL (n = 11) or PTNL (n = 10). **(E)** Proportions of IL-22⁺ neutrophils (CD14⁻CD15⁺) in the decidua parietalis of women with TNL (n = 11) or PTNL (n = 11) and decidua basalis of women with TNL (n = 11) or PTNL (n = 10). **(F)** Proportions of IL-22⁺ NK cells (CD14⁻CD15⁻CD3⁻CD19⁻CD56⁺) in the decidua parietalis of women with TNL (n = 11) or PTNL (n = 11) and decidua basalis of women with TNL (n = 11) or PTNL (n = 10). **(G)** Proportions of IL-22⁺ innate lymphoid cells (ILCs, CD14⁻CD15⁻CD3⁻CD19⁻CD11b⁻CD56⁻(Lin)⁻CD127⁺) in the decidua parietalis of women with TNL (n = 11) or PTNL (n = 11) and decidua basalis of women with TNL (n = 11) or PTNL (n = 10). **(H)** Proportions of IL-22⁺ B cells (CD14⁻CD15⁻CD3⁻CD19⁺) in the decidua parietalis of women with TNL (n = 11) or PTNL (n = 11) and decidua basalis of women with TNL (n = 11) or PTNL (n = 10). The P-values were determined by Mann-Whitney U-tests. Data are shown as scatter plots with medians, interquartile ranges, and min/max ranges. Demographic and clinical characteristics of the study population are shown in Table I.



Supplemental Figure 3. Intravenous administration of IL-22 and maternal IL-22 concentrations prior to *Ureaplasma parvum*-induced preterm birth in mice. **(A)** Gestational length (dpc) of mice that received an intravenous injection of recombinant mouse IL-22 (rmIL-22) (red) (689 pg, n = 8) on 16.5 days *post coitum* or PBS (blue) as vehicle control (n = 5). Data are shown as scatter plots with medians, interquartile ranges, and min/max ranges. **(B)** Rate of mortality at birth of neonates born to mice that received an intravenous injection of rmIL-22 (red) or PBS (blue). Data are shown as means. **(C)** Concentrations of IL-22 in maternal serum of mice intra-amniotically injected with *Ureaplasma parvum* (n = 12) or SP4 broth (as vehicle control; n = 6) on 16.5 dpc. Data are shown as scatter plots with medians, interquartile ranges, and min/max ranges.