Transcriptional Profiling of Lung Macrophages Identifies a Predictive Signature for Inflammatory Lung Disease in Preterm Infants

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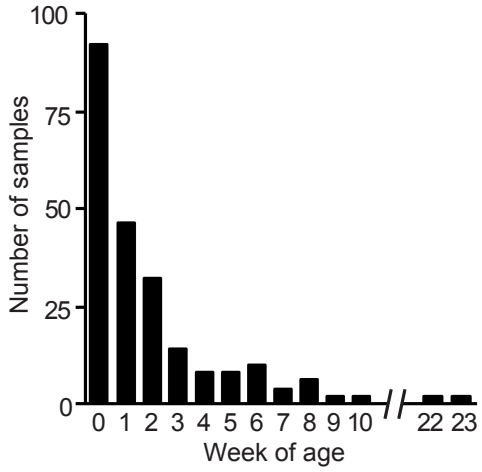
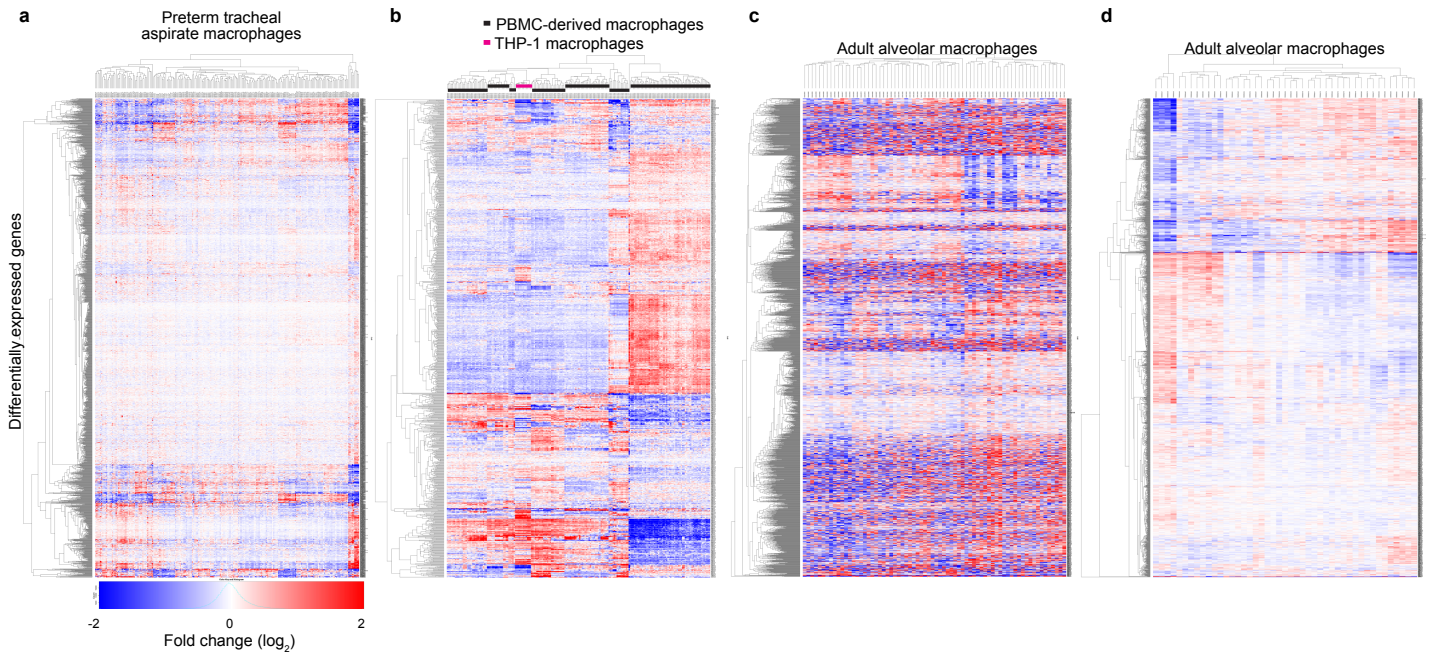
Supplementary Figures



Supplementary Figure 1. Sample distribution by chronological age. Not every patient was analyzed at each time point. Reasons for missing samples included extubation and less invasive respiratory support and lack of sufficient cell number in the tracheal aspirate. In addition, some patients were intubated at later time points, making them eligible for analysis. For example, we obtained data from 42 patients on day 1. We also obtained day 7 samples from 12 of the 42 patients that also had day 1 samples. In addition, we obtained data on day 7 from an additional 11 patients that did not have data on day 1, giving a total of 23 patient samples on day 7. The sample number in the graph above includes both control and LPS-treated samples.



Supplementary Figure 2. Global gene expression in tracheal aspirate macrophages from preterm infants. Unsupervised hierarchical clustering analysis of all tracheal aspirate macrophage samples (**a**) compared to published datasets from human peripheral blood monocyte-derived macrophages (PBMC), the human THP-1 macrophage cell line (**b**), and two different studies examining adult alveolar macrophages (**c,d**). Global patterns of expression demonstrate the unique gene expression profile of lung macrophages from human preterm infants compared to other macrophage datasets.

Supplementary Table

Characteristic	n	%
total	128	100%
female	51	39.8%
mean gestational age (wk)	26 2/7	
median gestational age (wk)	26 6/7	
mean birth weight (g)	871	
chorioamnionitis	28	21.9%
vaginal delivery	31	24.2%
survival	118	92.2%
mean days on ventilator	18.3	
BPD	84	73.7%
none	30	26.3%
mild	9	7.9%
moderate	28	24.6%
severe	47	41.2%

Supplementary Table. Characteristics of patients enrolled in the study. BPD outcome and severity categorized using National Institutes of Health criteria.

Supplementary Methods

Target	Forward	Reverse
GAPDH	CTC ATG ACC ACA GTC CAT GC	CAC ATT GGG GGT AGG AAC AC
CCL3	AGT TCT CTG CAT CAC TTG CTG	CGG CTT CGC TTG GTT AGG AA
CCL20	TGC TGT ACC AAG AGT TTG CTC	CGC ACA CAG ACA ACT TTT TCT TT

Oligonucleotide sequences used for Real Time PCR.