Study Subjects and Study Design

The study was approved by the Baylor Research Institute Institutional Review Board at Baylor University Medical Center (Dallas, TX). After obtaining written informed consent, healthy adults, aged 18 to 64 years, were enrolled to receive a single intramuscular dose of 2009–2010 seasonal influenza (Fluzone, Sanofi Pasteur, PA), pneumococcal vaccine (Pneumovax23, Merck, NJ), or placebo (saline). Exclusion criteria were pregnancy, active allergy symptoms, or vaccinations within the previous 2 months. Prior to vaccination, participants had two baseline blood draws (on days −7 and 0, with respect to the day of vaccination; see Tables S1 and S2 for study design). Blood was collected in Tempus blood RNA tubes (Life Technologies) for microarray and acid citrate dextrose tubes (ACD, BD Vacutainer) for whole-blood flow cytometry, CBC, and serum analysis of neutralizing antibodies and cytokines. In addition, capillary blood was collected by finger stick for microarray (see Table S5 for study design). Freshly ficolled PBMC were used for sequential isolation of white blood cell subsets.



