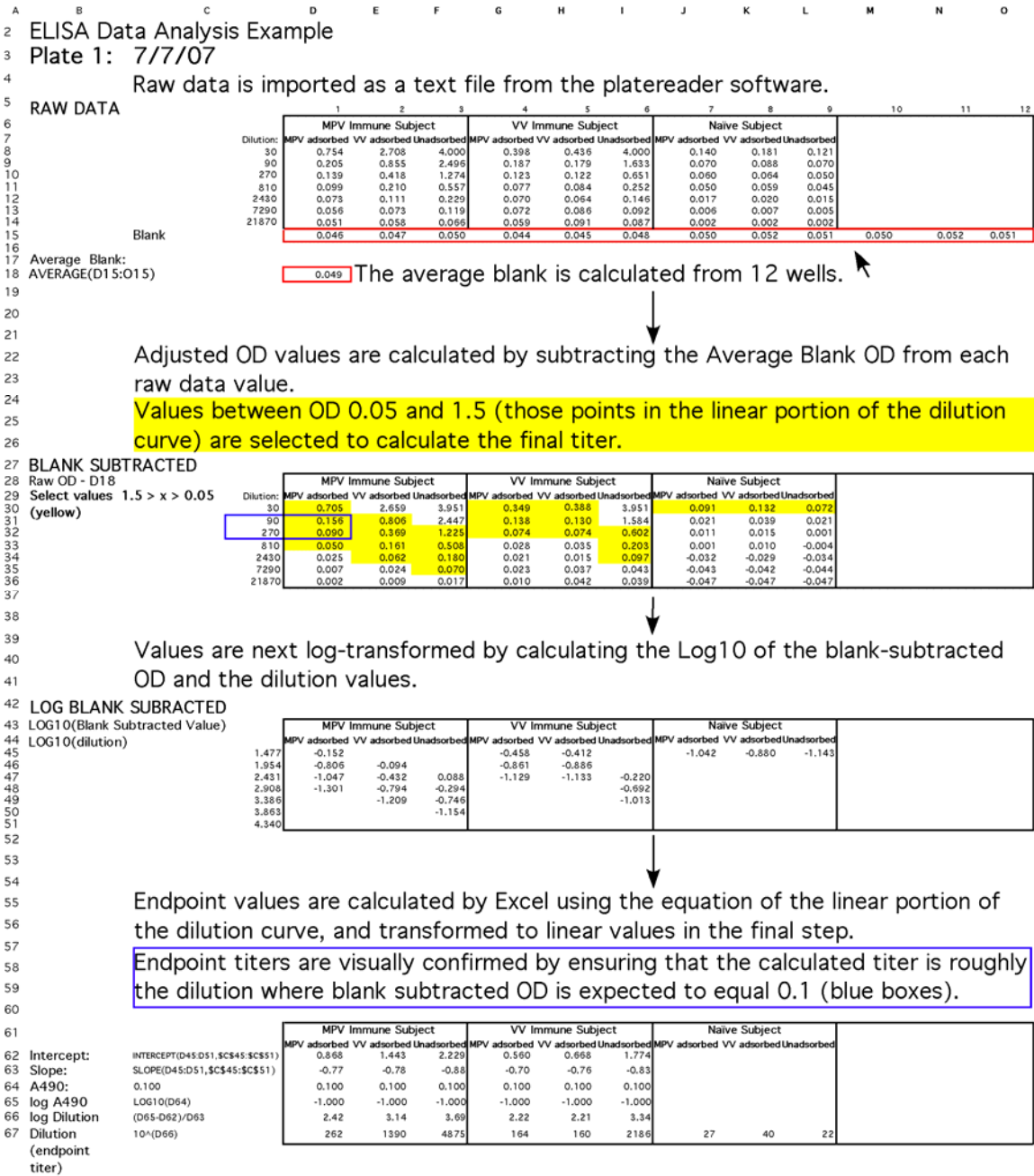# Technical Appendix

Figure 1. Illustration of ELISA data analysis. Optical density values at 490 nm (OD$_{490}$) values were imported directly into Excel (Microsoft, Redmond, WA) from the ELISA microplate reader (VersaMax; Molecular Devices, Sunnyvale, CA, USA). The average OD$_{490}$ of 12 blank wells (Line 18) was then subtracted from the raw OD$_{490}$ obtained for each sample well. These values were transformed to logarithmic scale to create a log-log curve. We use linear OD$_{490}$ values between 1.5 and 0.05 because these typically fall within the linear portion of the curve and are used to determine the endpoint titer. The slope and intercept of the linear portion of the curve were determined by a standard $y = mx + b$ calculation, and the dilution at which OD$_{490}$ = 0.1 was transformed to a linear value to give a final endpoint titer.