



$$\text{Level (AU/mL)} = \left[ \frac{\text{MFI serum}}{\text{MFI calibrator}} \right] \times [\text{cal}] \times \frac{D}{500}$$

$$[\text{cal}] = 100 \text{ AU/mL}$$

$$\text{Example: } \left[ \frac{12700}{23700} \right] \times 100 \times \frac{4000}{500} = 428 \text{ AU/mL}$$

### Additional file 1 Determination of the level of anti-HMGCR aAbs.

Anti-HMGCR levels were determined by reference to the MFI value, in the same assay, of a calibrator i.e., a highly positive anti-HMGCR<sup>+</sup> serum whose level was arbitrarily set to 100 AU/mL. The assay was first performed using a 1/500 screening dilution of the serum. In this example, the sample's MFI at a 1/500 dilution was higher than 80% of the calibrator's MFI. Thus, further dilutions were performed and the first dilution yielding a MFI inferior to 80% of calibrator MFI was retained for calculation, yielding a 428 AU/mL anti-HMGCR level.