

SizeFERENCE[®]

SizeFERENCE is a calibrant for the Karitro^{MP} instrument. It provides reliable calibrations for macro mass photometry measurements of particles in the 40–150 nm range, including adenoviruses and lentiviruses.

Calibration in macro mass photometry

Macro mass photometry characterizes particles in the 40–150 nm range, including adenoviruses and lentiviruses. It measures two parameters for each particle. The first is contrast, which is a proxy for mass and refers to the interference between the light scattered by the particle and the light reflected by the glass sample carrier. The second parameter is particle size, measured as particle diameter.

To measure size, a macro mass photometer conducts a focus sweep of the sample and identifies the point of optimum contrast for each measured particle. This z axis position is collected in arbitrary units and then converted into a diameter in nm by using particles of known size as calibrant.

SizeFERENCE

SizeFERENCE (Fig. 1) is a calibrant for the Karitro^{MP} macro mass photometer. It contains silica beads with diameters of 50, 60, 80, 100 and 120 nm (Fig. 2), mixed in roughly equimolar concentrations. These beads are measured by the instrument and their points of optimum contrast are incorporated into a model – which is then used to calculate particle sizes in the sample of interest.

SizeFERENCE is easy to use and provides a standard reference that ensures reproducibility across measurements, instruments and labs.



Fig. 1. SizeFERENCE. Each vial of SizeFERENCE contains 0.3 mL of calibrant in suspension.

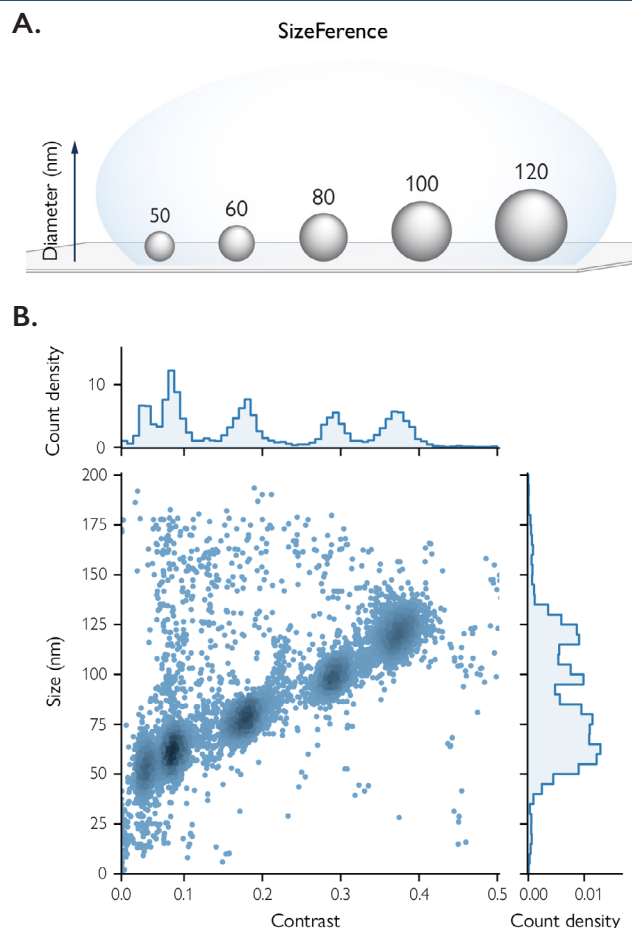


Fig. 2. The composition of SizeFERENCE. **A.** The size calibrant SizeFERENCE is an equimolar mixture of silica beads of five diameters (50, 60, 80, 100 and 120 nm). **B.** A SizeFERENCE sample measured with macro mass photometry. The histograms display the contrast (top) and size (right) distributions of the particles in the sample. The scatter plot shows the correlation between these two parameters. Analyzed using Refeyn's Karitro^{MP}.

Technical specifications

Contents	Silica beads suspended in deionized water (0.3 mL) For calibration of non-reflective particles in the 40–150 nm range measured with the Karitro [®]
Storage	Stable for 1 year at room temperature (max. 25°C). Do not freeze
Usage	Dilute before use, following the instructions included with the product (which are optimized for each batch)

