Thermo Scientific Cyto-Cal Calibration and Set-up Particles and Cyto-Plex Multiplex Assay particles are designed to optimize the performance of flow cytometers.

Cyto-Cal particles are ideal for calibration and set-up, and for monitoring flow and optical stability. Cyto-Plex particles enable simultaneous detection and quantitation of multiple analytes within a single sample. By using color coded Cyto-Plex particles with the appropriate dyes, these tests can now be carried out using most commercially available flow cytometers.

Both Cyto-Cal and Cyto-Plex particles work on an open platform to accommodate various instrument brands and laboratories. Customers can also use these particles with no license requirements.
Thermo Scientific Cyto-Cal Calibration and Set-up Particles

Multifluor + Violet Intensity Calibrator
- 2 mL, 50 tests • Approx. 1.5 x 10^6 particles/mL • Nominal diameter ~ 3 µm
The Cyto-Cal Multifluor Plus Violet Intensity Calibrator is a mixture of highly uniform 3 µm particles with green, orange, blue and red dyes in five different fluorescent intensities. It also includes one blank undyed particle for effective calibration of the fluorescent scale. These particles are so uniform that no singlet gating is required. The calibrator can monitor flow cytometer linearity while checking instrument sensitivity, stability and performance.

Packaged in an easy-to-use single-vial formula, the calibrator consists of particles precisely stained with fluorescent dyes that have optimized intensity levels and broad emissions detectable in multiple channels.

488 and 633 Alignment Particles
- 3 mL, 50 tests • Approx. 0.5 x 10^6 particles/mL • Nominal diameter ~ 3 µm
Superior particle size and uniform dye intensity provides exceptional accuracy when performing the alignment of the flow cytometer optics to give a high level of confidence in the instrument results.

Cyto-Cal alignment particles provide a superior method for optical alignment and flow cell focusing of flow cytometers. The 3 µm particles are of the highest quality in size and fluorescence uniformity to permit the best possible optimization of each parameter being measured. Cyto-Cal alignment particles are internally dyed with chemically stable dyes and therefore have excellent signal stability.

Cyto-Cal 488 alignment particles are excited by the 488 nm spectral line of the argon laser and have broad emission, allowing them to be used to simultaneously align the FL1 (FITC), FL2 (PE) and FL3 (PE-Cy5) channels. Cyto-Cal 633 alignment particles are optimally excited with the 633 nm He-Ne laser (635 nm diode laser) and have a maximum emission at 700 nm. They are designed to align the FL4 (APC) channel.

Absolute Count Control
- 10 mL • Approx. 1 x 10^6 particles/mL ± 5% • Nominal diameter ~ 3 µm
The Cyto-Cal absolute count control is designed for absolute cell counting on flow cytometers. This product contains uniform 7 µm particles containing two encapsulated dyes.

The single vial contains fluorescent particles which are precisely stained with fluorescent dyes that have optimized intensity and broad emission in multiple channels (FITC, PE, PE-Cy5). The hydrophilic particle surface eliminates doublets, ensuring an accurate count measured. Cyto-Cal alignment particles are internally dyed with chemically stable dyes and therefore have excellent signal stability.

Cyto-Cal 488 alignment particles are excited by the 488 nm spectral line of the argon laser and have broad emission, allowing them to be used to simultaneously align the FL1 (FITC), FL2 (PE) and FL3 (PE-Cy5) channels. Cyto-Cal 633 alignment particles are optimally excited with the 633 nm He-Ne laser (635 nm diode laser) and have a maximum emission at 700 nm. They are designed to align the FL4 (APC) channel.

Thermo Scientific Cyto-Plex Multiplex Assay Particles

Carboxylated Particles - 4 µm and 5 µm - Levels 1 to 12
- 1 mL and 5 mL • 0.5 % solids
Cyto-Plex carboxylated particles provide 12 levels of fluorescent intensities at two distinct diameters for analysis of up to 24 different analytes. These particles consist of a highly uniform polystyrene carboxylate-modified particle with fluorescent intensities which are completely separated from each other.

The use of a single diameter particle for all dye levels saves time by requiring only the development and optimization of one particle chemistry. Multiple diameters can be combined to increase the number of analytes measured in one test. High-density binding sites and low non-specific binding enable coupling with a wide variety of antibodies, nucleic acids and other biomolecules.

Cyto-Plex carboxylated particles have a maximum emission at 700 nm and can be excited with either 488 nm or 633 nm lasers. Emission can be collected in either the PE-Cy5 or APC channels. Since there is little or no emission in the FITC and PE channels, probes utilizing either of these dyes can be effectively used as reporters.