



Spectradyne's nCS1 – Broad Dynamic Range for Broad Utility

Spectradyne's nCS1 is an implementation of Microfluidic Resistive Pulse Sensing (MRPS), that counts and sizes particles one-by-one using an electrical (non-optical) method. As a result, the nCS1 accurately measures the concentration and size of particles of any material, no matter their optical properties or the polydispersity of the sample. Spectradyne's customers thus use the platform for a diverse set of particle measurement applications, including:

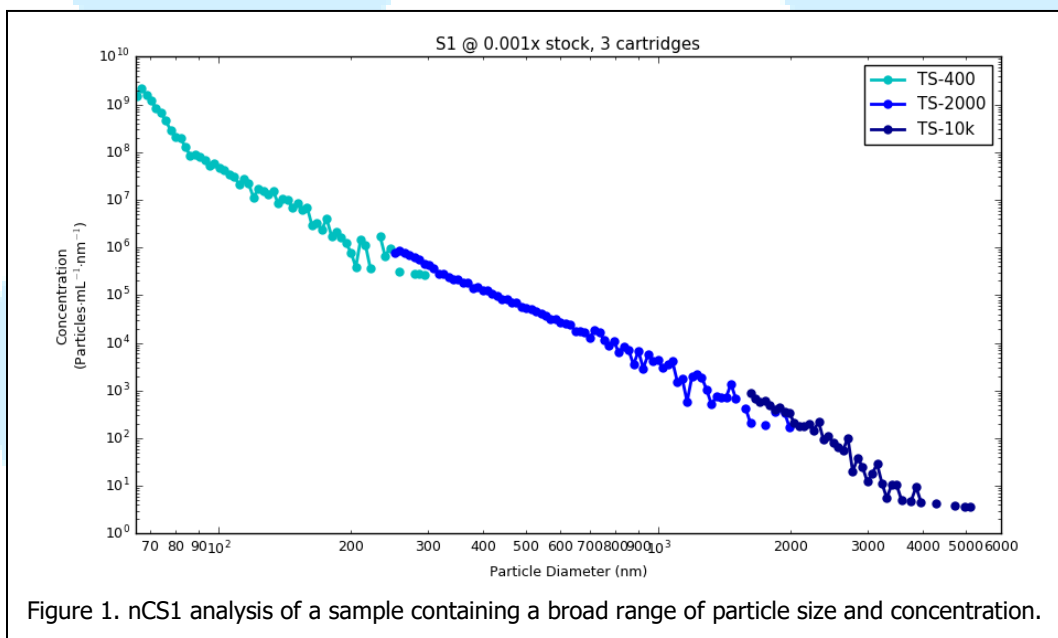
- Drug formulation & stability testing
- Extracellular vesicles (e.g., exosomes)
- Gene Therapy & Nanomedicine
- Industrial materials development
- Virology
- Biological research
- Lipid nanoparticles, liposomes, emulsions
- Paints, inks, CMP slurry, foods

Each of these applications benefits from the broad dynamic range in both size and concentration that is accessible to Spectradyne's nCS1:

	MIN	MAX
Size (nm)	50	10,000
Concentration (1/mL)	1×10^4	1×10^{11}

Figure 1 shows nCS1 measurements of a single sample that contains particles ranging from 65 nm to 6 microns in diameter and over 9 orders of magnitude in concentration.

In this particular case, the nCS1 provided the manufacturer of this sample with a quantitative assessment of large-particle impurities whose concentration must be minimized in order to ensure a successful product. This measurement provides an unparalleled view of the composition of the sample that cannot be obtained with any other method.



The nCS1's ability to accurately measure the concentration of particles in polydisperse samples is especially important for real-world applications, in which samples are rarely monodisperse—Are yours? Email us to arrange a demonstration and learn what's really in your sample.