

Flow NanoAnalyzer | nanoFCM

500 nm

Mitochondria

Bacteria

Viruses

Vesicles

Nanomedicine

Nanomaterials

7 nm

High Sensitivity Flow Cytometry for Nanoparticle Analysis

Unmatched Performance • Superior Sensitivity • Innovation for NanoWorld

nanoFCM

Flow NanoAnalyzer

High Sensitivity Flow Cytometry for Nanoparticle Analysis

Unmatched Performance · Superior Sensitivity · Innovation for NanoWorld

- ✓ **Unprecedented Sensitivity**
- ✓ **Multiparameter Analysis of NPs**
- ✓ **Fill the Gaps below 200 nm**
- ✓ **Cover the Entire Size Range of EVs**



Implementing strategies for single-molecule fluorescence detection in a sheathed flow, **NanoFCM** provides a versatile and powerful platform — **Flow NanoAnalyzer** for the multiparameter analysis of functional nanoparticles (**7-1000 nm**) at the single-particle level. By precise quantification of the ultraweak elastically scattered light from single nanoparticles, high-resolution size distribution comparable to that of electron microscopy can be acquired in 1–2 minutes. Biochemical properties of single nanoparticles can be analyzed via concurrent multi-color fluorescence detection. **Flow NanoAnalyzer** is therefore expected to become a powerful tool for life science, nanoscience and nanotechnology studies.

**Your Research,
Revolutioned**



Technical Specifications

NanoAnalyzer	Model Number	N30		N31		N80	
Detectors	Specification	488 nm	532 nm	488 nm	532 nm	488 nm	532 nm
	SSC	SPCM	SPCM	SPCM	SPCM	PMT	PMT
	525/40 nm	SPCM	——	PMT	——	PMT	——
	580/40 nm	SPCM	SPCM	PMT	PMT	PMT	PMT
	>650 nm	——	SPCM	PMT	PMT	PMT	PMT
	*SPCM: Single Photon Counting Module;						
Optics	Laser Configuration	6 μm × 24 μm elliptical spot					
	Flow Cell	250 × 250 μm rectangular quartz flow cell					
	SSC Sensitivity	< 30 nm				< 80 nm	
	SSC Resolution	40/50 nm				100/130 nm	
	Particle Size	7 - 200 nm				80 -1000 nm	
	Fluorescence Sensitivity	<10 MESF	< 1 PE	< 50 MESF			
	Fluorescence Resolution	42/133 MESF					
	Filters	User Exchangeable					
Fluidics	Sample Acquisition Rate	10,000 events/min					
	Sample Flow Rate	2-60 nL/min					
	Sheath Flow Rate	10-40 μL/min					
	Sample Volume	10 - 100 μL					
	Fluid Container Capacity	1 L sheath, 1 L waste, 100 mL cleaning					
	Fluidics Maintenance	Automated startup, cleaning, decontamination and shutdown					
Data Processing	Parameters	Peak Height, Area and Width for all Channels					
	Output Data Files	NFA 1.0; FCS 3.0;					
	Software	NF Professional 1.0					
Sampling	Manual Sample Loading	0.6 mL EP tube					
Operating Conditions	Instrument Dimension (W × D × H)	50.6 cm × 34.6 cm× 29.0 cm 19.9 in × 13.6 in × 11.4 in					
	Instrument Weight	51.6 lb (23.4 kg)					
	Power Requirements	100-240 VAC, 50-60 Hz					
	Environment Requirements	Temperature: 15-35°C; Relative Humidity: 80% maximum					

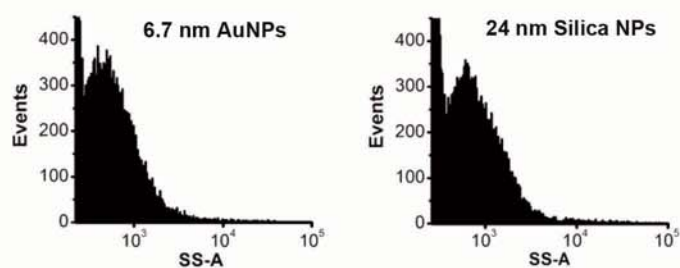
For more information, visit www.nanofcm.com or email info@nanofcm.com

Performance



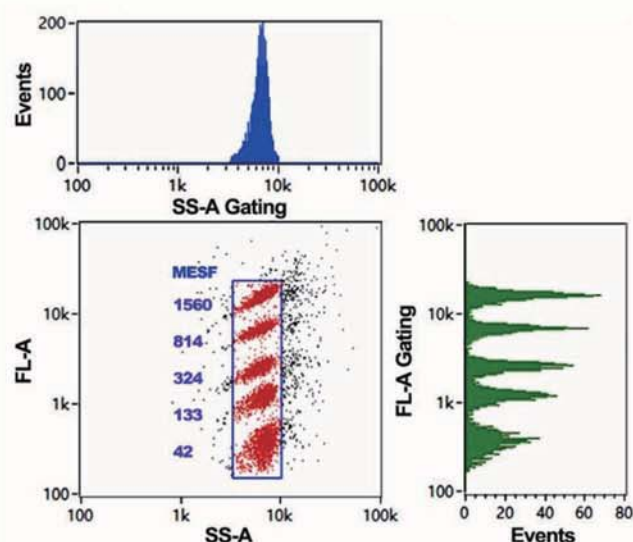
SSC Sensitivity	< 30 nm NPs
SSC Resolution	40/50 nm NPs
Fluorescence Sensitivity	<10 MESF
Fluorescence Resolution	42/133 MESF
Particle Size	7-1000 nm
Sample Acquisition Rate	10,000 events/min

Sensitivity for Scattering Detection

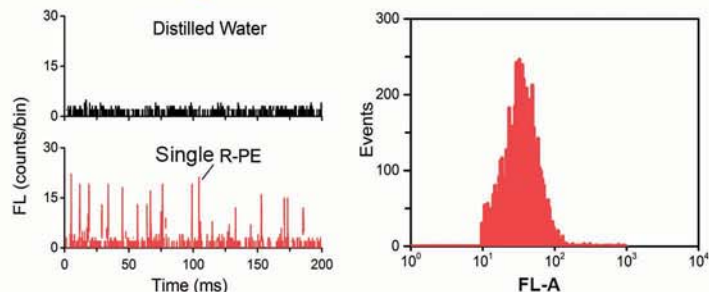


Resolution for Fluorescence Detection

Mixture of 212 nm Fluorescent Silica NPs

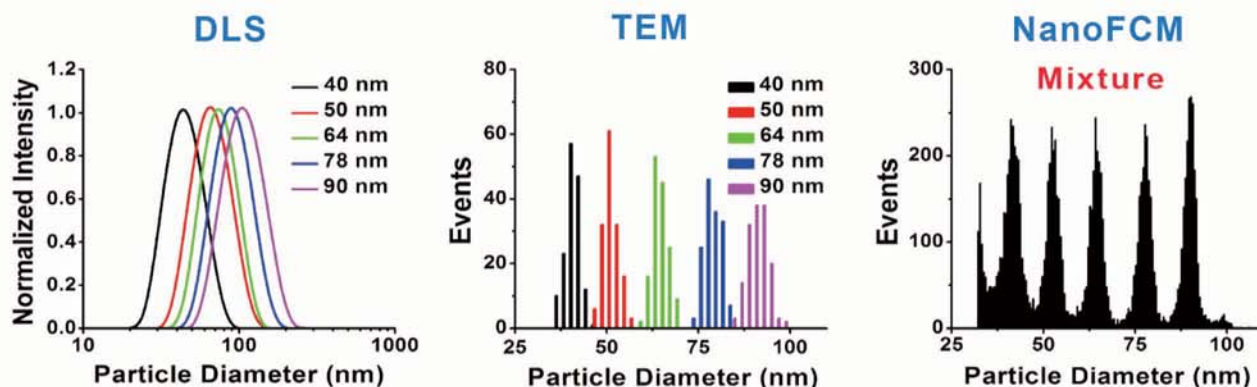


Sensitivity for Fluorescence Detection



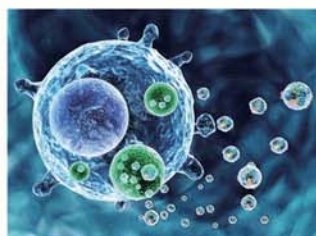
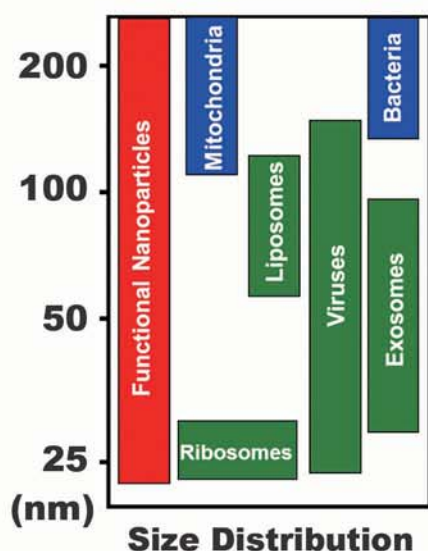
Resolution Comparable to Electron Microscopy

(Mixture of 40, 50, 64, 78 and 90 nm Silica Nanoparticles)

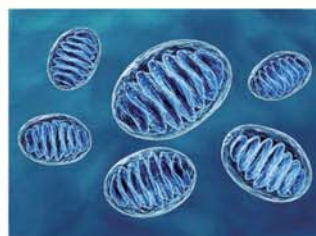


Unmatched Performance · Superior Sensitivity · Innovation for NanoWorld

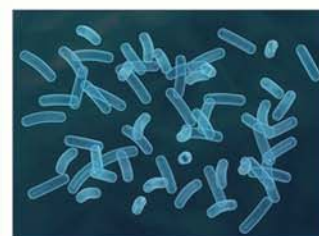
Explore the NanoWorld



Vesicles



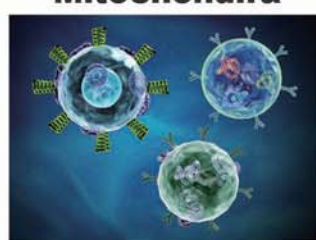
Mitochondria



Bacteria



Viruses

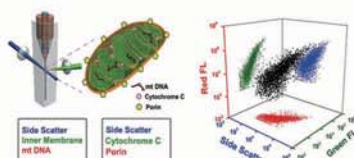


Nanomedicine

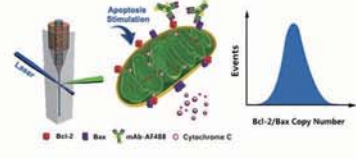


Nanomaterials

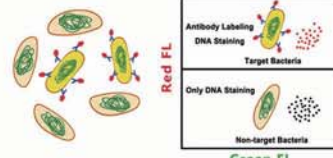
Multiparameter Analysis of Individual Mitochondria
Anal. Chem. 2012, 84, 6421-6428.



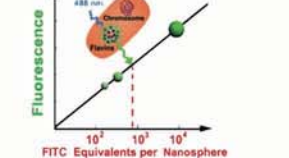
Quantification of Protein Copy Number in Single Mitochondria
Biosens. Bioelectron. 2015, 74, 476-482.



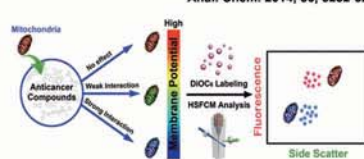
Quantification of Specific Pathogenic Strain
Anal. Chem. 2010, 82, 1109-1116.



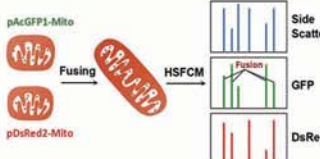
Bacterial Antifluorescence Quantification
Anal. Chem. 2012, 84, 1526-1532.



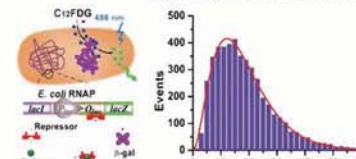
Identification of Mitochondria-Targeting Anticancer Compounds
Anal. Chem. 2014, 86, 5232-5237.



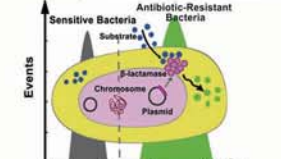
Quantitative Determination of Mitochondrial Fusion



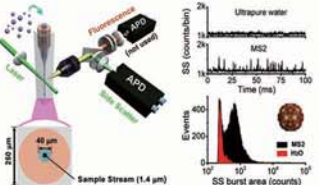
Single-Cell Analysis of Low Copy Number β -galactosidase
Biosens. Bioelectron. 2013, 48, 49-56.



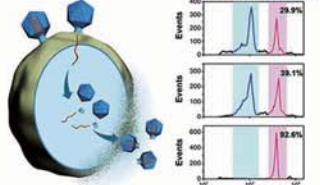
Bacterial Antibiotic Resistance Detection
Chem. Eur. J. 2013, 19, 10903-10910.



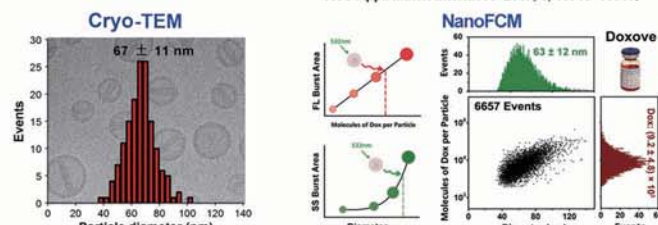
Label-free Analysis of Single Viruses



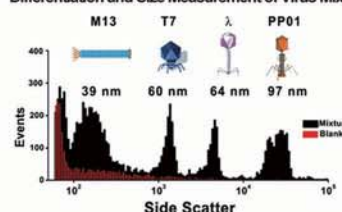
Purity Assessment of the Virus Products (T7)



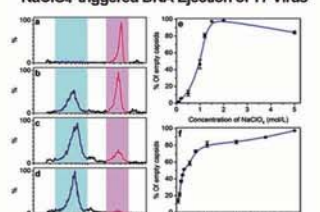
Multiparameter Characterization of Doxorubicin-Loaded Liposomes
ACS Nano 2014, 8, 10998-11006.
ACS Appl. Mater. Interfaces 2017, 9, 13913-13919.



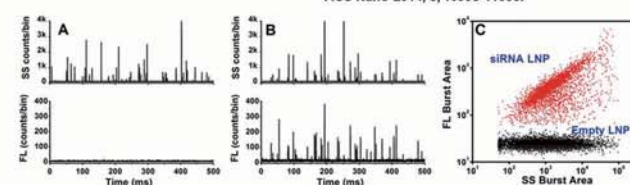
Differentiation and Size Measurement of Virus Mixture



NaClO₄-triggered DNA Ejection of T7 Virus



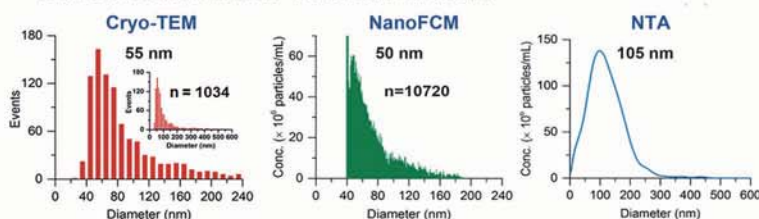
Characterization of siRNA Nanomedicine
ACS Nano 2014, 8, 10998-11006.



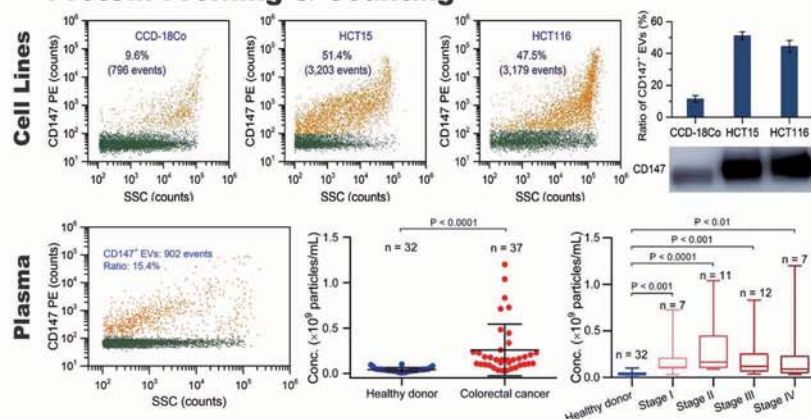
Applications in Extracellular Vesicles Analysis

ACS Nano 2018, 12, 671–680

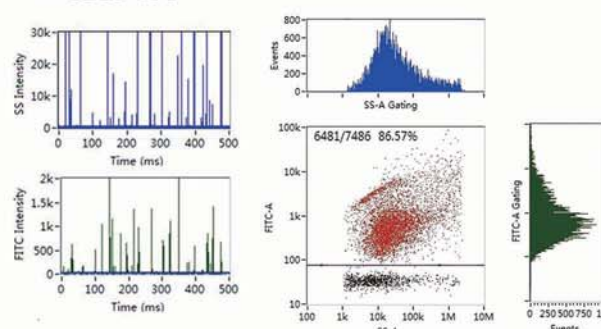
• Size Distribution Measurement



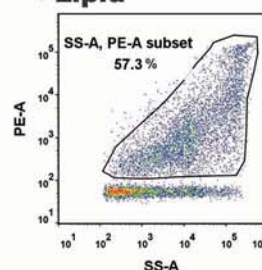
• Protein Profiling & Counting



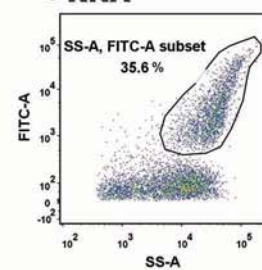
• CD63-GFP



• Lipid



• RNA



Flow NanoAnalyzer

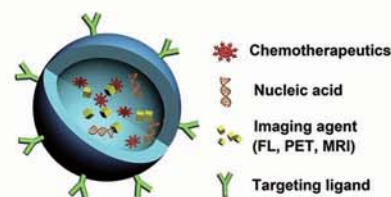


Silica Nanospheres



Testing Services

- Size
- Concentration
- Biochemical Properties



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