ウルトラファインバブルシャワーヘッドエコスパ（JFES1）

■UFB発生数確認試験

1.UFB測定機器

Nano Sight NS300

2.試験方法・測定方法

①試験水による配管及びポンプ内の洗浄（洗浄方法として一晩（15時間）水道水（限外ろ過フィルタあり）による通水洗浄を行った後、採水し測定を実施、その後に水道水（限外ろ過フィルタあり）にて1時間通水洗浄を行った後に採水し測定を実施し2測定間の測定にて測定値に有意差が見られないことを確認しコンタミ除去の判断を行った。）

②水温：40℃

③採水方法：ブランク水（サンプル水と同経路におけるシャワーホース吐水部から採水）、サンプル水共に5Lの受け容器に3分間吐水し、容器内の水が複数回入れ替える。吐水後スターラーで撹拌する。採水用小ビンを洗浄後にスポイトでゆっくり採水する。

④測定機器内の残水を取り除いた後、測定する

3.測定結果

■シャワー水流

測定日	2026/4/16
ブランク水個数濃度（個/cc）	2,730,000
ウルトラファインバブルシャワーエコスパ個数濃度（個/cc）	10,500,000
ブランク水補正後個数濃度（個/cc）	7,770,000
平均粒径（nm）	164.7

■ミスト水流

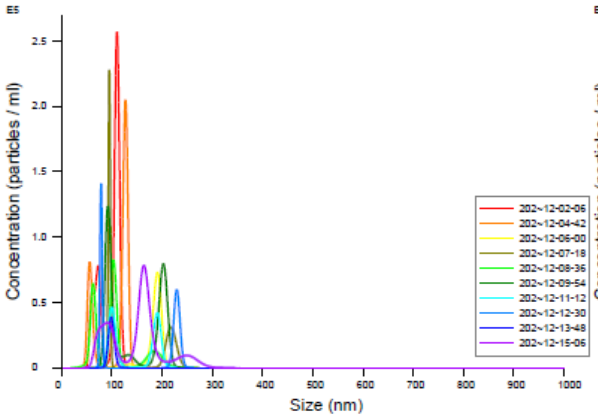
測定日	2026/4/16
ブランク水個数濃度（個/cc）	2,730,000
ウルトラファインバブルシャワーエコスパ個数濃度（個/cc）	13,900,000
ブランク水補正後個数濃度（個/cc）	11,170,000
平均粒径（nm）	149.7

ウルトラファインバブルシャワーヘッドエコスパ（JFES1）

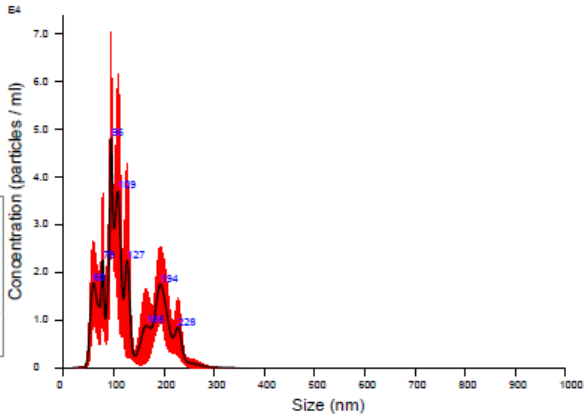
■ブランク水

NANOSIGHT

20260416-02-blank 2026-04-16 12-01-05



FTLA Concentration / Size graph for Experiment:
20260416-02-blank 2026-04-16 12-01-05



Averaged FTLA Concentration / Size for Experiment:
20260416-02-blank 2026-04-16 12-01-05
Error bars indicate + / -1 standard error of the mean

Included Files

20260416-02-blank 2026-04-16 12-02-06, 20260416-02-blank 2026-04-16 12-04-42, 20260416-02-blank 2026-04-16 12-06-00, 20260416-02-blank 2026-04-16 12-07-18, 20260416-02-blank 2026-04-16 12-08-36, 20260416-02-blank 2026-04-16 12-09-54, 20260416-02-blank 2026-04-16 12-11-12, 20260416-02-blank 2026-04-16 12-12-30, 20260416-02-blank 2026-04-16 12-13-48, 20260416-02-blank 2026-04-16 12-15-06.

Details

NTA Version:	NTA 3.4 Build 3.4.003
Script Used:	SOP Standard Measurement 12-01-05PM 16A~
Time Captured:	12:01:05 16/04/2026
Operator:	
Pre-treatment:	
Sample Name:	20260416-02-blank
Diluent:	
Remarks:	

Capture Settings

Camera Type:	sCMOS
Laser Type:	Blue405
Camera Level:	15
Slider Shutter:	1206
Slider Gain:	245
FPS	25.0
Number of Frames:	1498
Temperature:	25.5 - 25.8 ºC
Viscosity:	(Water) 0.873 - 0.878 cP
Dilution factor:	1 x 10e0
Syringe Pump Speed:	100

Analysis Settings

Detect Threshold:	4
Blur Size:	Auto
Max Jump Distance:	Auto: 15.1 - 28.1 pix

Results

Stats: Merged Data

Mean:	129.9 nm
Mode:	95.1 nm
SD:	52.4 nm
D10:	68.7 nm
D50:	112.2 nm
D90:	206.8 nm

Stats: Mean +/- Standard Error

Mean:	133.6 +/- 9.6 nm
Mode:	115.8 +/- 11.1 nm
SD:	40.3 +/- 6.9 nm
D10:	87.5 +/- 10.7 nm
D50:	137.9 +/- 13.7 nm
D90:	182.9 +/- 15.1 nm
Concentration:	2.73e+06 +/- 4.59e+05 particles/ml
	0.1 +/- 0.0 particles/frame
	0.2 +/- 0.0 centres/frame

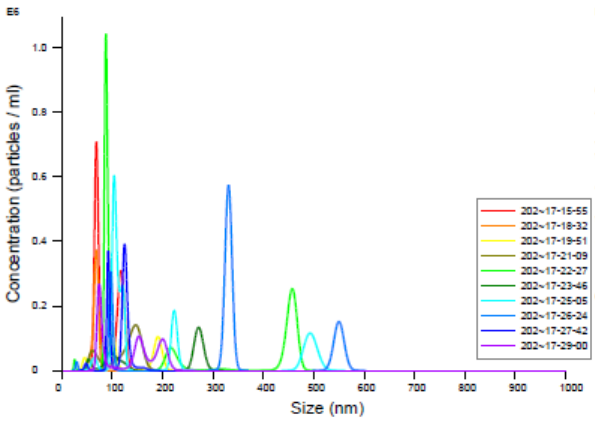
個数濃度（個/cc）：2,730,000±459,000

ウルトラファインバブルシャワーヘッドエコスパ（JFES1）

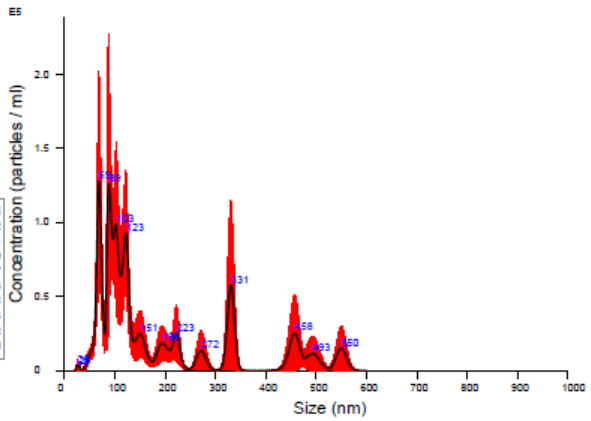
■シャワー水流（JFES1）

NANOSIGHT

20260416-09-JFES1-shower-flowrate25 2026-04-16 17-15-02



FTLA Concentration / Size graph for Experiment:
20260416-09-JFES1-shower-flowrate25 2026-04-16 17-15-02



Averaged FTLA Concentration / Size for Experiment:
20260416-09-JFES1-shower-flowrate25 2026-04-16 17-15-02
Error bars indicate + / -1 standard error of the mean

Included Files

20260416-09-JFES1-shower-flowrate25 2026-04-16 17-15-55,
20260416-09-JFES1-shower-flowrate25 2026-04-16 17-18-32,
20260416-09-JFES1-shower-flowrate25 2026-04-16 17-19-51,
20260416-09-JFES1-shower-flowrate25 2026-04-16 17-21-09,
20260416-09-JFES1-shower-flowrate25 2026-04-16 17-22-27,
20260416-09-JFES1-shower-flowrate25 2026-04-16 17-23-46,
Limited file list. Full list printed on Page 2.

Details

NTA Version:	NTA 3.4 Build 3.4.003
Script Used:	SOP Standard Measurement 05-15-02PM 16A~
Time Captured:	17:15:02 16/04/2026
Operator:	
Pre-treatment:	
Sample Name:	20260416-09-JFES1-shower-flowrate25
Diluent:	
Remarks:	

Capture Settings

Camera Type:	sCMOS
Laser Type:	Blue405
Camera Level:	15
Slider Shutter:	1206
Slider Gain:	245
FPS	25.0
Number of Frames:	1498
Temperature:	25.6 - 25.9 ºC
Viscosity:	(Water) 0.870 - 0.876 cP
Dilution factor:	1 x 10e0
Syringe Pump Speed:	25

Analysis Settings

Detect Threshold:	4
Blur Size:	Auto
Max Jump Distance:	Auto: 13.2 - 15.1 pix

Results

Stats: Merged Data

Mean:	190.7 nm
Mode:	68.8 nm
SD:	143.2 nm
D10:	69.6 nm
D50:	120.9 nm
D90:	458.4 nm

Stats: Mean +/- Standard Error

Mean:	164.7 +/- 25.7 nm
Mode:	137.4 +/- 28.7 nm
SD:	75.0 +/- 19.4 nm
D10:	80.1 +/- 4.6 nm
D50:	147.0 +/- 26.6 nm
D90:	267.5 +/- 54.6 nm
Concentration:	1.05e+07 +/- 1.74e+06 particles/ml
	0.6 +/- 0.1 particles/frame
	0.8 +/- 0.2 centres/frame

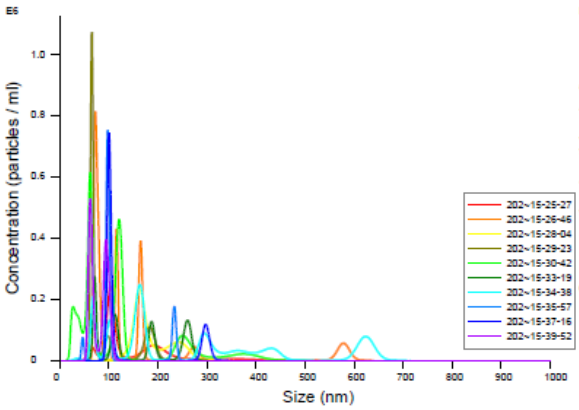
個数濃度（個/cc）10,500,000±1,740,000

ウルトラファインバブルシャワーヘッドエコスパ（JFES1）

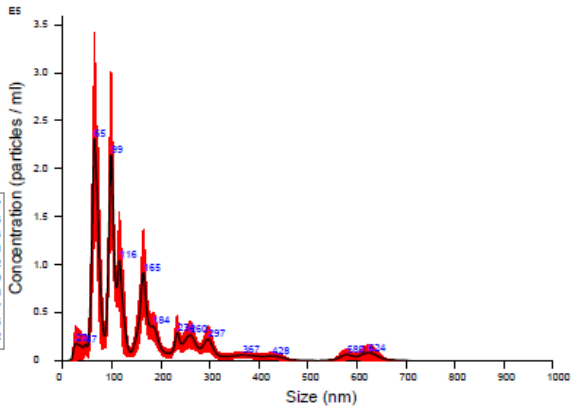
■ミスト水流（JFES1）

NANOSIGHT

20260416-06-JFES1-mist-flowrate25 2026-04-16 15-24-36



FTLA Concentration / Size graph for Experiment:
20260416-06-JFES1-mist-flowrate25 2026-04-16 15-24-36



Averaged FTLA Concentration / Size for Experiment:
20260416-06-JFES1-mist-flowrate25 2026-04-16 15-24-36
Error bars indicate + / -1 standard error of the mean

Included Files

20260416-06-JFES1-mist-flowrate25 2026-04-16 15-25-27,
20260416-06-JFES1-mist-flowrate25 2026-04-16 15-26-46,
20260416-06-JFES1-mist-flowrate25 2026-04-16 15-28-04,
20260416-06-JFES1-mist-flowrate25 2026-04-16 15-29-23,
20260416-06-JFES1-mist-flowrate25 2026-04-16 15-30-42,
20260416-06-JFES1-mist-flowrate25 2026-04-16 15-33-19,
Limited file list. Full list printed on Page 2.

Details

NTA Version:	NTA 3.4 Build 3.4.003
Script Used:	SOP Standard Measurement 03-24-36PM 16A~
Time Captured:	15:24:36 16/04/2026
Operator:	
Pre-treatment:	
Sample Name:	20260416-06-JFES1-mist-flowrate25
Diluent:	
Remarks:	

Capture Settings

Camera Type:	sCMOS
Laser Type:	Blue405
Camera Level:	15
Slider Shutter:	1206
Slider Gain:	245
FPS	25.0
Number of Frames:	1498
Temperature:	25.6 - 25.9 ºC
Viscosity:	(Water) 0.871 - 0.876 cP
Dilution factor:	1 x 10e0
Syringe Pump Speed:	25

Analysis Settings

Detect Threshold:	4
Blur Size:	Auto
Max Jump Distance:	Auto: 14.5 - 24.4 pix

Results

Stats: Merged Data

Mean:	155.7 nm
Mode:	64.8 nm
SD:	122.1 nm
D10:	62.6 nm
D50:	108.9 nm
D90:	296.8 nm

Stats: Mean +/- Standard Error

Mean:	149.7 +/- 17.8 nm
Mode:	95.8 +/- 12.2 nm
SD:	81.1 +/- 15.8 nm
D10:	79.6 +/- 9.4 nm
D50:	120.6 +/- 12.7 nm
D90:	272.1 +/- 42.5 nm
Concentration:	1.39e+07 +/- 1.88e+06 particles/ml
	0.8 +/- 0.1 particles/frame
	1.2 +/- 0.3 centres/frame

個数濃度（個/cc）：13,900,000±1,880,000