Fluidity One Systems

Fluidity One systems harness Microfluidic Diffusional Sizing (MDS) – a fundamentally new way of determining affinity (K_D), size, concentration, and stoichiometric information when proteins interact with DNA, lipids, or other proteins.

	fluidity one-w	fluidity one-w serum	fluidity one-m
System			
Application	Determine size, K_D concentration and stoichiometry in solution	Determine K_D and concentration in biological buffer systems or backgrounds such as serum or plasma	Determine K_D and concentration in biological buffer systems or backgrounds such as serum or plasma
Technology	Microfluidic Diffusional Sizing (MDS)	Microfluidic Diffusional Sizing (MDS)	Microfluidic Diffusional Sizing (MDS)
Interaction analysis			
Run time	Typically 8 – 14 min per datapoint	Typically 8 – 14 min per datapoint	Typically within 35 min for 24 datapoints to determine K_D
Size range: hydrodynamic radius, R_h	1 – 20 nm	1 – 20 nm	1 – 20 nm
Accuracy of size determination	± 10%	± 10%	± 10%
Reproducibility of size determination	CV < 10%	CV < 10%	CV < 10%
Working range molecular weight	1.4 kDa – 14 MDa	1.4 kDa – 14 MDa	1.4 kDa – 14 MDa
Sensitivity range (labeled HSA in PBS)	1 nM – 1 µM Alexa Fluor™ 488	1 nM – 1 µM Alexa Fluor™ 647	100 pM – 10 µM Alexa Fluor™ 488 100 pM – 10 µM Alexa Fluor™ 647
Typical sample consumption to determine protein K_D	60 – 100 µL	60 – 100 µL	50 – 80 µL
Sample volume per datapoint	5 µL	5 µL	3.5 µL (application dependent)
Compatibility	Compatible with aqueous buffer systems	Compatible with crude, complex backgrounds such as serum or plasma Compatible with aqueous and biological buffers including components such as TRIS, HEPES, PBS, NaCl, KCl, TWEEN, DMSO and DMF	Compatible with crude, complex backgrounds such as undiluted serum or plasma Compatible with aqueous and biological buffers including components such as TRIS, HEPES, PBS, NaCl, KCl, TWEEN, DMSO and DMF

	fluidity one-w	fluidity one-w serum	fluidity one-m
Interaction analysis con't			
Fluorescent labels	Alexa Fluor™ 488 and equivalents, GFP/FITC Fluidiphore labeling kit (fluidiphore rapid amine 503)	Alexa Fluor™ 647 and equivalents, RFP/Cy5	Alexa Fluor™ 647 and equivalents, RFP/Cy5, Alexa Fluor™ 488 and equivalents, GFP/FITC, Fluidiphore labeling kit (fluidiphore rapid amine 503)
Data export	USB Mass Storage Device/ Fluidity Cloud	USB Mass Storage Device/ Fluidity Cloud	USB Mass Storage Device/ Fluidity Cloud
Exported data file formats	CSV and JSON formats	CSV, JSON formats	CSV
Data output from Fluidity Cloud	Result tables, binding curves and affinity (K_D), size (R_h) of complex and labeled species	Result tables, binding curves and affinity (K_D), size (R_h) of complex and labeled species	Result tables, binding curves and affinity (K_D), size (R_h) of complex and labeled species
Consumables			
	Kits containing chips and cartridges sufficient for 96 or 288 datapoints	Kits containing chips and cartridges sufficient for 96 or 288 datapoints	Kits sufficient for 192 datapoints
Specifications			
Temperature control	Ambient	Ambient	25 °C (actively controlled)
Operating environment	5 °C to 40 °C	5 °C to 40 °C	15 °C to 30 °C
Power requirements	100 – 240 V AC, 50 – 60 Hz	100 – 240 V AC, 50 – 60 Hz	100 – 240 V AC, 50 – 60 Hz, <150W
Safety and EMC standards	Designed to comply with all relevant safety and EMC standards	Designed to comply with all relevant safety and EMC standards	Designed to comply with all relevant safety and EMC standards
Dimensions			
Dimensions (D x W x H; mm)	400 x 400 x 430	400 x 400 x 430	666 x 432 x 489 (Drawer Out)
Weight (kg)	15	15	35

Document reference: PS-0028v2