

Fluidity One-M

Quantify and characterize any protein interaction – even in complex backgrounds, even with challenging targets

Molecular size, K_D , concentration and stoichiometry from a single experiment



fluidity one-m

Explore interactions in solution under physiologically-relevant conditions

- Analyze samples in different backgrounds - from simple buffers to cell lysates, serum and saliva
- Obtain simultaneous measures of K_D and concentration within 35 minutes
- Gain insights into interaction stoichiometry; distinguish on-target binding from off-target binding

Application examples

Characterize polyclonal antibodies

Track functional immune response in serum samples

Reveal therapeutic antibody / protein interaction mechanisms

Characterize disordered proteins or higher-order complexes under close to *in vivo* conditions

Explore aggregation effects and distinguish between specific and non-specific binding

Take a closer look

- Uses **microfluidic diffusional sizing (MDS) technology** to measure changes in molecular size (hydrodynamic radius) as binding events occur
- **Enables development of customized protocols to study a wide range of interactions** – typical run time 35 minutes for 24 datapoints to determine K_D
- **Eliminates risk of binding artefacts or other surface constraints - measure directly in solution** – no surface immobilization
- **Minimizes consumption of precious samples** – 3.5 μL per datapoint (application dependent), 50-80 μL to determine K_D

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Specifications

System	
Application	Determine size, K_D , concentration and stoichiometry in buffer systems or complex backgrounds such as serum or plasma
Technology	Microfluidic Diffusional Sizing (MDS)
Interaction analysis	
Run time	Typically within 35 min for 24 datapoints to determine K_D
Size range: hydrodynamic radius, R_h	1 – 20 nm
Accuracy of size determination	$\pm 10\%$
Reproducibility of size determination	CV < 10%
Working range molecular weight	1.4 kDa – 14 MDa
Sensitivity range (labeled HSA in PBS)	100 pM – 10 μ M Alexa Fluor™ 488 100 pM – 10 μ M Alexa Fluor™ 647
Typical sample consumption to determine protein K_D	50 – 80 μ L
Sample volume per datapoint	3.5 μ L (application dependent)
Compatibility	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
Datapoints per run	Up to 24 datapoints per run
Fluorescent labels	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
Exported data file formats	CSV
Data output from Fluidity Cloud	Result tables, binding curves and affinity (K_D), size (R_h) of complex and labeled species
Consumables	
	Kits sufficient for 192 datapoints
Specifications	
Temperature control	25 °C (actively controlled)
Operating environment	15 °C to 30 °C
Power requirements	100 – 240 V AC, 50 – 60 Hz
Safety and EMC standards	Designed to comply with all relevant safety and EMC standards
Dimensions	
Dimensions (D x W x H; mm)	666 x 432 x 489 (Drawer Out)
Weight (kg)	35