



# Fluidity One-W Serum

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

Molecular size,  $K_D$ , concentration and stoichiometry

fluidity **one-w**  
serum

## 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
- 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) to indicate binding events occur
- Enables development of customized protocols to study a wide range of interactions – typical run time 8-14 minutes per datapoint
- Eliminates risk of binding artefacts or other surface constraints - measure directly in solution – no surface immobilization
- Minimizes consumption of precious samples – 5  $\mu$ L per datapoint, 60-100  $\mu$ L to determine  $K_D$

For Research Use Only

## 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 8 – 14 min per datapoint   |
| 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)                | 1 nM – 1 $\mu$ M Alexa Fluor™ 647  |
| Typical sample consumption to determine protein $K_D$ | 60 – 100 $\mu$ L   |
| Sample volume per datapoint                           | 5 $\mu$ L  |
| Compatibility   | Compatible with crude, complex backgrounds such as serum or plasma<br><br>Compatible with aqueous and biological buffers including components such as TRIS, HEPES, PBS, NaCl, KCl, TWEEN, DMSO and DMF |
| Datapoints per run                                    | 1 datapoint per run  |
| Fluorescent labels                                    | Alexa Fluor™ 647 and equivalents<br>RFP and Cy5  |
| Data export   | USB Mass Storage Device / Fluidity Cloud   |
| Exported data file formats                            | CSV, JSON formats  |
| Data output from Fluidity Cloud                       | 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   |
| Specifications  |  |
| Temperature control                                   | Ambient  |
| Operating environment                                 | 5 °C to 40 °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)                            | 400 x 400 x 430  |
| Weight (kg)   | 15   |