

Troubleshooting and Storage of the Proteometer-CV Kit

Troubleshooting

LC system leaks

Reduce flow in 0.1 mL/min. increments to zero. Re-seat finger-tight fittings. Increase flow incrementally in 0.1 mL/min. increments to 1.0 mL/min.

Detector signal saturation

Adjust fluorescence detector settings to reduce gain or sensitivity. Perform injections at the highest mAb level desired. If the signal is still saturated, make further detector adjustments and injections until the peak does not overload the detector.

System overpressure or poor repeatability, loss of linearity, etc.

The LC system may experience higher pressures in due to LC plumbing or reactor obstructions. Locate the point of obstruction by monitoring pressure changes across each component of the system. Clear path of the restriction in the affected part or replace with new plumbing if necessary.

The chromatographic profile may be affected by perturbations in the LC system caused by mixer performance, check valve issues, etc. If inconsistent profiles are observed, verify that the system is fully primed, and air bubbles are absent. Additionally, all plumbing components within the flow path should be systematically inspected for leaks. If no malfunctions are found, verify the LC performance parameters via execution of a performance qualification as recommended by the instrument manufacturer.

Cleaning and Storage

Reactor cleaning

Proteometer-CV Reactors are generally usable for up to 300 injections without the need for substantial cleaning or maintenance. However, depending upon materials injected onto it, reactor performance may be compromised which is typically indicated with poor peak shapes, loss of resolution, or elevated backpressure.

In cases of reduced performance, the reactor may be restored with a solution of phosphate buffer containing salt with high pH (e.g. 50 mM phosphate, 1 M NaCl, pH 10). If suspected contaminants are basic in nature, a similar buffer with a lower pH may be utilized. Hydrophobic contaminants may be removed by adding a low percentage of organic component to the cleaning solution.

It is recommended to flow approximately 8 mL of the cleaning solution(s) through the reactor for cleaning. If elevated back pressures persist, the flow through the reactor may be reversed. For all cleaning procedures, ensure that the backpressure over the reactor does not exceed 3000 psi.

Extended storage (longer than two weeks)



For long-term storage, flush the Proteometer-CV reactor with approximately 4 mL of ammonium sulfate containing 0.02% sodium azide (NaN_3). Maintain at a low flow rate (0.25 mL/min) to avoid excessive reactor backpressure. Once flushing is complete, secure the end caps onto the reactor and store at room temperature.

