



Poor Assay Precision

Poor assay precision is almost always due to procedural or equipment issues within your laboratory. The kit reagents are well validated and tested for stability while the coating of antibody on the plates is very uniform. Given that the other reagents are homogeneous liquids, poor CVs are normally a result of one of the following problems:

1. Washing technique and equipment – Many automated plate washers as well as hand held vacuum aspiration devices can significantly affect assay imprecision. For this reason we recommend the use of a manual washing procedure for optimal reproducibility. See the section on [Washing of Microtiter Wells](#) to get a detailed explanation of the recommended washing technique or watch the video [Washing Technique for Microtiter Plate ELISA](#).
2. Contamination of kit reagents by concentrated sources of the analyte. Our ELISAs are very sensitive and capable of measuring analytes in the pg/mL to ng/mL range. Many laboratories will have sources of the analyte in question at very high concentrations near to where they perform the ELISA. For example, culture media or samples from very upstream in the purification process may have HCPs or growth media additives like BSA in the mg/mL range. Such upstream samples will have on the order of a million fold greater concentration than the sensitivity of the assay for that analyte. In such cases, it is easy to contaminate some of the kit reagents such as random microtiter plate wells, a standards' vial, or the conjugate bottle. Click on [Avoiding Contamination of Kit Reagents](#) to get advice on how to prevent contamination.
3. Operator inexperience, poor technique, and other laboratory equipment such as pipets, or poor quality pipet tips can have a significant contribution to poor precision.

A good method to isolate the problem and to identify the source of the imprecision is to have another technician perform the assay in another lab using different equipment.