Bioanalysis ZONE

Alturas Analytics, Inc.
The LC-MS Experts

ICH M10

What's new?

This infographic will explore the guidance in relation to chromatographic assays only.

The adoption of ICH M10 introduces several operational changes into the regulated bioanalytical laboratory. As each member country adopts the M10 guidance, it will replace any earlier country-specific guidance, allowing bioanalytical labs to follow the same analysis and reporting guidelines regardless of where the bioanalytical data will be submitted. In this infographic, we will explore the ICH M10 guidance for method development, validation, sample analysis and reporting.

- ☑ Extensive documentation is not required.
- ☑ Assess the extent of back-conversion of unstable metabolites.
- Changes made to already validated assays must be well documented.
- Discuss impact on study results in bioanalytical report.
- Partially validate the impact of possible back-conversion.

Validation

- ☑ Quality Control (QC) concentrations
  - Mid-QC must be set at 30-50% of ULOQ.
  - Dilution factors should cover expected dilution of study samples
- ☑ Demonstrate reinjection reproducibility to cover the time between extraction and injection of incurred samples.
- ☑ Use statistical methods such as Bland-Altman or Deming regression to determine concordance between two validated methods for cross validation.
- ☑ Stability testing of fixed-dose and specifically labelled drug regimens includes:
  - Benchtop stability
  - Freeze-thaw stability
  - Long-term stability
- ☑ Reference and internal standards
  - Stability of standards in solution shall be determined apart from the stability of the neat compound.
  - Long- and short-term stability for an analog internal standard must be proven even when in the same solvent as the reference standard.

Sample analysis

Concentration of the dilution QCs in each sample analysis batch must exceed the study sample measured, or at minimum, the ULOQ.

Dilution factors within each batch are bracketed by the dilution factors applied to the above-range dilution QC.

Reporting

Include more source data at the time of report preparation for ease of review:

- ☑ Summary table of reasons for reanalysis and the number of samples for each reason.
- ☑ QC graphs trend analysis is encouraged in bioanalytical sample analysis reports.
- ☑ Internal standard response plots for all runs, with failed runs, for bioavailability and bioequivalence studies.
- ☑ Extensive documentation must be provided to support reintegration of chromatograms and for comparative studies.
  - Results pre and post reintegration must be reported.

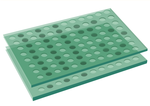
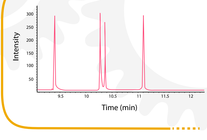


Table 2. Assay performace data

Analyte	LLOQ (ng/ml)	ULOQ (ng/ml)	Accuracy range (%)



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