Bioanalysis ZONE
IN THE ZONE

Alturas Analytics, Inc.
The LC-MS Experts

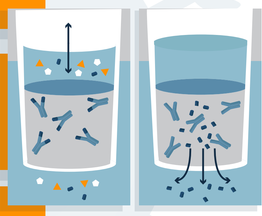
Considerations for developing a smart biomarker assay

Compound class

Is it amenable to LC-MS/MS without modification?
(e.g., eicosanoids or small peptides)

Will the compound need to be derivatized?
(e.g., sugars, steroids) Will the resulting compound be ionizable via GC-MS/MS or via LC-MS/MS?

Will the compound need to be digested?
(e.g., larger peptides or proteins)



Endogenous compound concentration

What is the LLOQ required to be able to measure a significant change in the biomarker?

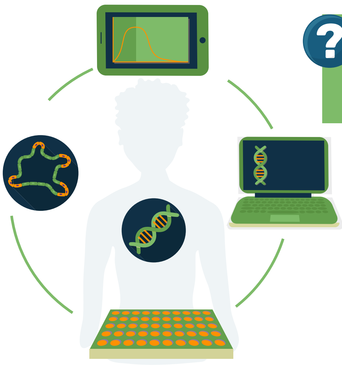
What is the endogenous concentration of the biomarker and is it consistent between individuals or between disease state and normal?

If the LLOQ is significantly higher than the levels in control matrix, no heroic measures are needed

If screening matrices to find sufficiently blank authentic matrix is possible, this will minimize matrix effects

If unable to use authentic matrix, surrogate matrix is a suitable alternative, but must be shown to accurately measure the compound in authentic matrix through parallelism experiments

A surrogate analyte is also a suitable alternative, but for MS based assays, this requires two differently labeled versions of the authentic compound and also a demonstration of parallelism between the measurement of the authentic compound and the labeled compound



Study Objective/Endpoint

Is the data intended to support a safety endpoint?

Is the data intended to support dose adjustment?

Is the data intended to measure patient responses to a therapy via a PK/PD endpoint?

Follow CAP/CLIA guidance

Follow FDA bioanalytical method validation guidance

CAP
CLIA

FDA

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