Elemental Scientific

Clinical Matrix

CLIN-0500 – Ultrapure, proprietary synthetic mixture designed to mimic various biological matrices

Specifications

- Contains a proprietary aqueous mixture of ultrapure salts and other organic components to mimic biological matrices for trace metals analysis
- Neutral pH; suitable for matrix matching calibrations for both acidic and basic sample preparations
- 500 mL

Features

- Purified and packaged under class 100 clean room conditions
- Low or sub-ppt contamination for most elements on the periodic table
- Improve washout for carryover-prone elements like Hg

Applications

- Add to matrix-matched calibration standards for the analysis of urine, blood, serum, plasma, or any similar biological matrix without elevating the blank level
- Online matrix modifier for ICP and ICPMS determinations to reduce internal standard fluctuation for samples with complex matrices

Matrix Matching Sample Prep

Optimize Laboratory Calibrations

Accurate ICPMS determination of trace elements in complex biological matrices, such as urine, whole blood, blood plasma, or serum, is hindered by matrix effects from high total dissolved solids (TDS) and other biological components present in the samples.

Traditionally, the best accuracy for the analysis of these types of samples has been achieved by matrix matching calibrations with actual clinical samples (e.g., pooled urine or whole blood). Unfortunately, this technique requires collection, handling, and characterization of large volumes of potentially hazardous biological material and a separate calibration matrix for every type of clinical sample. Furthermore, the elements of interest likely are present in the calibration matrix, which makes it necessary to apply a blank correction to achieve accurate results.

Clinical Matrix is an ultrapure, proprietary synthetic mixture designed to mimic various biological matrices for easy and accurate matrix matching for the analysis of a wide variety of clinical and biological sample types, including urine, whole blood, blood plasma, serum, and digested hair and nails.

Clinical Matrix is specially purified to remove metal contamination, making it ideal for any ICPMS applications requiring low trace metal detection limits in clinical and biological applications. Trace metal concentrations are in the low or sub-ppt range for most elements on the periodic table; contact support@icpms.com for inquiries about the certified levels for any particular analytes.