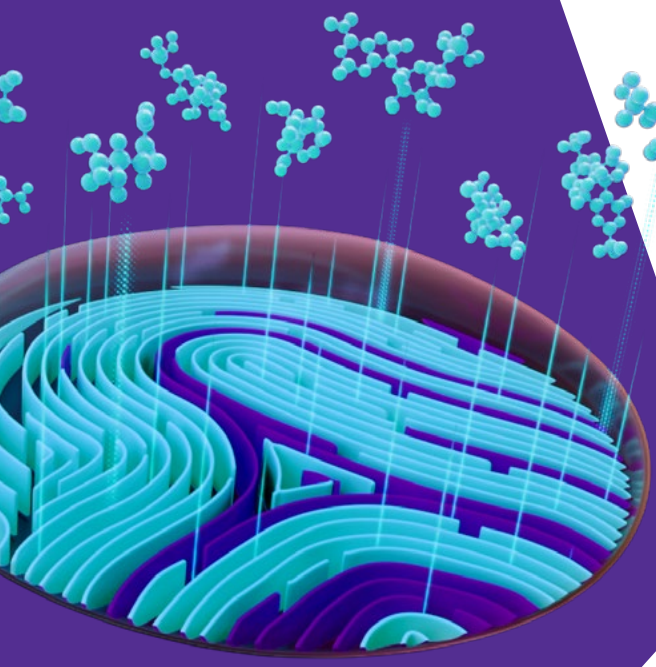
SAFC®

Pharma & Biopharma Raw Material Solutions

MERCK



INNOVATION AT YOUR FINGERTIPS

Simultaneous Quantitation of 100+ Media Components via Cell Culture Media Fingerprinting

Cell culture media (CCM) are complex mixtures with over 80 essential components—vitamins, amino acids, nucleosides, carbohydrates, trace elements, and salts—all vital for optimal cell growth and biomolecule quality. Variability in those can adversely affect your process performance and product quality, making accurate quantification during batch release essential. We recognize the challenges you face in truly quantifying all components, which is why we developed and offer the innovative CCM Fingerprinting analysis as a new service. It is designed to quantify as many components as possible, empowering you in release testing, media development, and troubleshooting – with only one sample and one assay.

Setting new Benchmarks in CCM Testing

Time & Cost Savings:
Minimizes need for repeated testing and significantly reduces testing time up to 50%

Security & Assurance:
Information on degradation products, low and high-abundant components

Increased Confidence:
Reliable quantitation of components, relative or absolute

High sensitivity & Selectivity:
Detects compounds as low as 10 ng/mL and specific compounds of interest even if they co-elute with others

The Life Science business of Merck operates as MilliporeSigma in the U.S. and Canada.

Streamlining Cell Culture Media Identification and Quantitation

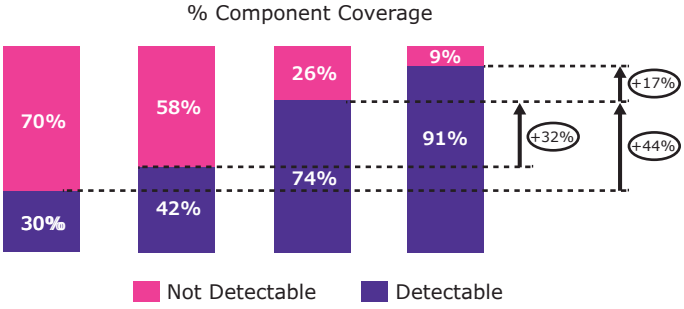
Traditional Multi-Method Approach

The Power of ONE Analytical Technique

LC-MS Fingerprinting: Leading the Way in CCM Analysis

Our Cell Culture Media Analytics Team has developed a unique liquid chromatography-mass spectrometry (LC-MS) based fingerprinting method for quantitation (relative &/or absolute) providing rapid and accurate component and media ID. By implementing this innovative analytical method in our custom cell culture media manufacturing workflow, we can identify over 100 media components demonstrating lot-to-lot comparability and homogeneity thus mitigating costly numerous analytical tests, and avoiding costly post-production investigations.

Detectable Components per Applicable Method



Traditional analytical methods only achieve 42% coverage (Amino Acids & Vitamins)

- Fingerprinting alone achieves 74% coverage (+32% compared to Amino Acids & Vitamins)
- Fingerprinting + Trace Elements (TE) testing provide up to 90% coverage (+17%)

Applying Fingerprinting & Trace Element analysis together captures most cell culture performance & CQA-impacting media components

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Your Trusted Partner in Advanced CCM Analysis

By enabling the simultaneous quantitation of over 100 media components in one single assay, we achieve unparalleled accuracy and efficiency in your media analysis. Say goodbye to the complexities and delays of traditional multi-method approaches and risks associated with limited understanding of your cell culture media composition. With our cutting-edge solution we allow you to focus on what truly matters—driving your research and production forward. Reach out to your sales representative or our dedicated customer application team for consultation.

Read more in-depth information on the method on our dedicated technical article page:
Cell Culture Media Fingerprinting: Ensuring Identity, Consistency, and Quality

Contact us today to learn what CCM Fingerprinting can do for your media and how to obtain this service.

The analysis may not determine root causes of all media performance or batch failures. Hence, other complementary media evaluation techniques may be needed for full understanding of media failures. We provide information and advice to our customers on application technologies and regulatory matters to the best of our knowledge and ability, but without obligation or liability. Existing laws and regulations are to be observed in all cases by our customers. This also applies in respect to any rights of third parties. Our information and advice do not relieve our customers of their own responsibility for checking the suitability of our products for the envisaged purpose.

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