METAL ANALYSIS

NMI
Natural and Medical Sciences Institute

Elemental and material analysis for the safe development of medical devices

Our correlative analyses help uncover the causes of material degradation and implant failure.

When Implants fail, the root cause is often complex. Through correlative analyses of explants, we combine physicochemical and biological data to clearly differentiate between material-, application-, and patient-related factors.

Analytical Methods

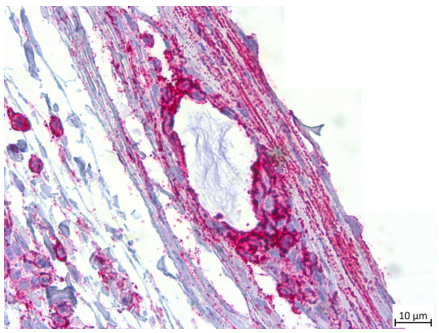
- ICP-MS: Quantification of metal ions & trace elements
- Histological analysis: Assessment of biological reactions
- HPLC: Analysis of degradation products & additives
- DSC: Thermal properties
- Microwave digestion

Application Areas

- Correlation of biological & material properties
- Release & corrosion studies
- Evaluation of explants & biological samples
- Quantitative complement to biological testing

FROM ANALYSIS TO BIOLOGICAL UNDERSTANDING

The combination of ICP-MS and histology enables correlative evaluation of material release and tissue response.



Your Benefits

- Correlative assessment from material defects to biological response
- Support for product development & certification
- Comprehensive material evaluation throughout the entire product lifecycle

Our Expertise

- Root cause analysis based on explants
- Decades of experience in medical technology
- State-of-the-art laboratories with a broad range of analytical methods
- Tailored testing strategies for individual requirements

CONTACT US FOR MORE DETAILS!

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ABOUT THE NMI

The NMI is a non-university research institution that conducts application-oriented research in the biological and material sciences. It has an interdisciplinary range of expertise in R&D and services for companies in the healthcare, automotive, mechanical engineering, and toolmaking industries. The NMI cooperates with top-class institutions in its research activities. It is supported by the Baden-Württemberg Ministry of Economic Affairs and is a member of innBW.

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