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Publication

Residual Humidity in Paraffin-Embedded Tissue Reduces Nucleic Acid Stability

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Researchers from BBMRI.at partner Med Uni Graz, who also have contributed the development of pre-analytical quality standards for FFPE tissue for DNA analyses, investigated the effect of residual humidity in paraffin-embedded tissue on RNA and DNA quality. Residual water had a negative effects of residual water on nucleic acid stability and contributed to reduced qRT-PCR quality.

Besides the duration of ischemia and fixation type, nucleic acid quality depends on a variety of other pre-analytical parameters, such as storage conditions and duration. water content within tissue samples is also among the potential pre-analtical variable.

The amount of residual water in paraffin-embedded tissue depended on the fixative type and the dehydration protocol and to some extend on the storage condition and duration.

Residual water negatively affected nucleic acid quality due to hydrolysis of nucleic acids and became visible as reduced qRT-PCR performance.

The experts conclude that proper dehydration and dry storage are essential to minimize degradative influence of residual water on nucleic acids and to improving the shelf life of fixed paraffin-embedded tissue.

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