
RNA Quality in Fresh-Frozen Gastrointestinal Tumor Specimens—Experiences from the Tumor and Healthy Tissue Bank TU Dresden

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Abstract

The term “pre-analytics” summarizes all procedures concerned with specimen collection or processing as well as logistical aspects like transport or storage of tissue specimens. All or these variables as well as tissue-specific characteristics affect sample quality. While certain parameters like warm ischemia or tissue-specific characteristics cannot be changed, other parameters can be assessed and optimized. The aim of this study was to determine RNA quality by assessing the RIN values of specimens from different organs and to assess the influence of vacuum preservation. Samples from the GI tract, in general, appear to have lower RNA quality when compared to samples from other organ sites. This may be due to the digestive enzymes or bacterial colonization. Processing time in pathology does not significantly influence RNA quality. Tissue preservation with a vacuum sealer leads to preserved RNA quality over an extended period of time and offers a feasible alternative to minimize the influence of transport time into pathology.

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