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Title:Terahertz-wave water concentration and distribution measurement in thin biotissue based on a novel sample preparation
Authors:Wang, Y.Y. (1); Notake, T. (1); Tang, M. (1); Nawata, K. (1); Ito, H. (1); Minamide, H. (1)
Author affiliation:(1) RIKEN ASI, 519-1399 Aramaki, Aoba, Sendai 980-0845, Japan
Corresponding author:Wang, Y.Y.(yuyewang@riken.jp)
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Abstract:The measurement of water concentration and distribution in thin biotissues with terahertz (THz)-wave has been proposed. In this paper, a novel sample preparation approach was introduced to effectively preserve tissue freshness at room temperature. Excellent stability of this method was demonstrated by measuring the transmittance spectroscopy and imaging many times within a certain time. Moreover, the reliability of water volume concentration measurement with THz-wave was evaluated. Measurement results using THz-wave were in good agreement with volume concentration measurement results based on other quantitative methods. The results suggest that water concentration and distribution measurement in thin biotissues using THz-wave will be a potential modality for medical and biological diagnosis.
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