DESCRIPTION

This handbook covers the entire field of magnetic resonance spectroscopy (MRS), a unique method that allows the non-invasive identification, quantification and spatial mapping of metabolites in living organisms—including animal models and patients.

Comprised of three parts:

• Methodology covers basic MRS theory, methodology for acquiring, quantifying spectra, and spatially localizing spectra, and equipment essentials, as well as vital ancillary issues such as motion suppression and physiological monitoring.

• Applications focuses on MRS applications, both in animal models of disease and in human studies of normal physiology and disease, including cancer, neurological disease, cardiac and muscle metabolism, and obesity.

• Reference includes useful appendices and look up tables of relative MRS signal-to-noise ratios, typical tissue concentrations, structures of common metabolites, and useful formulae.

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**ABOUT THE AUTHOR**


**John Griffiths**, Qualified in medicine and biochemistry. In the early 1980s, his research group pioneered the use of MRS for studies on living tumors, and he has worked since then on MRI and MRS of cancer, both in vivo and ex vivo. He has published more than 300 peer-reviewed articles to date. His recent interests include the metabolomics of cancer.

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