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- Technical Reports Tschantz BA, Moran B. Modeling of the hydrologic transport of mercury in the Upper East Fork Poplar Creek (UEFPC) watershed. Technical Report for Lockheed Martin Energy Systems: Bethesda, MD, September 2004.
- Supplement Castelli WP. Lipids, risk factors and ischaemic heart disease. *Atherosclerosis* 1996;124 Suppl:S1-9.
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EDITORIAL

From analytical precision to molecular insight: Integrating biomarker science across the clinical continuum

The current issue of the International Journal of Medical Biochemistry exemplifies the journal's mission to connect analytical rigor with molecular understanding in laboratory medicine. The studies in this collection range from the discovery of biomarkers and the exploration of mechanisms to the validation of analyses and the establishment of reference intervals. Together, they show the diverse and connected nature of today's clinical biochemistry.

Mohamed MSA provides a thought-provoking perspective on endothelin-I and anti-VEGF therapy, presenting a rationale for dual antagonism to overcome therapeutic resistance in angiogenesis-driven diseases. In the field of infectious disease diagnostics, Bolat and Buyuktuna demonstrate that platelet-normalized biomarkers can serve as sensitive diagnostic and prognostic indicators in Crimean-Congo hemorrhagic fever, a valuable contribution to hematology-based prognostication.

At the interface of cancer biology and bioinformatics, Seydel and Ayan investigate the urokinase-type plasminogen activator system and related microRNAs in hepatocellular carcinoma at the interface of cancer biology and bioinformatics, identifying potential regulatory nodes for molecular intervention.

A series of analytical and reference interval studies reinforce the journal's foundation in clinical laboratory standardization and metrology. The analytical performance of NT-proBNP and aPTT is assessed by Yeğin across three methods. In another study, Sahin et al. establish adult reference intervals for thyroid hormones using Beckman Coulter analyzers in the Turkish population. Madenci and Kutukcu further evaluate the Access Vitamin B12 II assay with a new calibrator, emphasizing harmonization and quality assurance across analytical systems.

In the field of fundamental molecular and metabolic research, Yilmazer and Uzuner examine tau protein expression and phosphorylation in a glucose-repressed yeast model. Yildiz discusses how cancer cells adapt through dynamic metabolic rewiring via mitochondrial modules. Finally, Oztas and colleagues report that cinnamon supplementation attenuates endoplasmic reticulum stress in an experimental diabetic nephropathy model, offering insight into natural compound interventions targeting cellular stress pathways.

Together, these contributions capture the interdisciplinary essence of clinical biochemistry, where analytical performance, molecular biology, and translational relevance converge. By integrating laboratory precision with mechanistic depth, this issue reflects the journal's continuing commitment to advancing biomarker-driven diagnostics, monitoring, and therapy for various human diseases.

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Editor-in-Chief