VAMS® publication list

May 2021 Edition

2021

Louise Fets, Patrícia M. Nunes, Sebastien Campos, et al. **Development of novel MOG analogues with increased stability to explore 2 MCT2 and α-ketoglutarate biology *in vivo*.** bioRxiv 2021.03.15.433711; doi: https://doi.org/10.1101/2021.03.15.433711

In Vitro* | *In Vivo* | *Animal PK Study

Panagiotis-Dimitrios Mingas, Jurij Zdovc, Iztok Grabnar and Tomaž Vovk **The Evolving Role of Microsampling in Therapeutic Drug Monitoring of Monoclonal Antibodies in Inflammatory Diseases.** Molecules 2021, 26, 1787. https://doi.org/10.3390/molecules26061787

DBS* | *Filter Paper vs. VAMS* | *mAbs* | *TDM* | *Inflammatory Diseases

Hua Li, Maria Myzithras, Erica Bolella, Antony Leonard & Jennifer Ahlberg **Whole blood stability evaluation of monoclonal antibody therapeutics using volumetric absorptive microsampling.** Journal of Chromatography B, Volume 1171,2021, https://doi.org/10.1016/j.jchromb.2021.122623

Biotherapeutics* | *mAbs* | *Stability Studies

Laura Dhondt Siska Croubels, Pieter De Cock, Evelyn Dhont, et al. **Volumetric absorptive microsampling as alternative sampling technique for renal function assessment in the paediatric population using iohexol.** Journal of Chromatography B, Volume 1171,2021, https://doi.org/10.1016/j.jchromb.2021.122623.

Quantitative UHPLC Assay* | *Stability Studies* | *Plasma vs. VAMS* | *Pediatric Population

Angela Mc Ardle, Aleksandra Binek, Annie Moradian, et al. **Standardized workflow for precise mid- and high-throughput proteomics of blood biofluids.** bioRxiv 2021.03.26.437268; doi: https://doi.org/10.1101/2021.03.26.437268

Naive Plasma vs. Depleted Plasma vs. Dried Whole Blood* | *Standardized, Automated Workflow

Suzanne L. Parker, Adam D. Irwin, Francine Hosking, et al. **Microsampling for monitoring gentamicin in neonates.** medRxiv 2021.03.27.21254449; doi: https://doi.org/10.1101/2021.03.27.21254449

Pediatric Study* | *TDM* | *Antibiotic* | *Plasma vs. VAMS

Ryan T. Demmer, Brett Baumgartner, Talia D. Wiggen, et al. **Identification of natural SARS-CoV-2 infection in seroprevalence studies among vaccinated populations**. medRxiv 2021.04.12.21255330; doi: https://doi.org/10.1101/2021.04.12.21255330

Natural Infection vs. Vaccination* | *Home Sampling* | *Longitudinal Seroprevalence Study* | *ELISA

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John C. Williamson, Thomas F Wierzba, Michele Santacatterina, et al. **Analysis of Accumulated SARS-CoV-2 Seroconversion in North Carolina: The COVID-19 Community Research Partnership** medRxiv 2021.03.11.21253226; doi: https://doi.org/10.1101/2021.03.11.21253226

COVID-19* | *Sero-Surveillance* | *Population Immunity

Mark P. Grillo, Svetlana Markova, Marc Evanchik, et. al. **Preclinical *in vitro* and *in vivo* pharmacokinetic properties of danicamtiv, a new targeted myosin activator for the treatment of dilated cardiomyopathy**. Xenobiotica, 51:2, 222-238

Animal Pharmacokinetics & Metabolism* | *Cardiac Myosin Activator

Henry F. Raymond, Pratik Datta, Rahul Ukey, et al. **Self-reported symptoms, self-reported viral testing result and seroprevalence of SARS CoV-2 among a community sample in Essex County New Jersey: A brief report.** medRxiv 2021.03.02.21252766; doi: https://doi.org/10.1101/2021.03.02.21252766

Venue-based Sampling* | *SARS-CoV-2 Seroprevalence Study

Cathy M. Jacobs, Lea Wagmann & Markus R. Meyer. **Development, validation, and application of a quantitative volumetric absorptive microsampling–based method in finger prick blood by means of LC-HRMS/MS applicable for adherence monitoring of antipsychotics.**
Anal Bioanal Chem 413, 1729–1737 (2021). https://doi.org/10.1007/s00216-020-03143-0

13 Commonly Prescribed Antipsychotics* | *Adherence* | *TDM* | *VAMS vs. Plasma* | *Stability Studies

Zijlstra, Marieke, Jongsma, Maria M.E, et al. **Infliximab Level Between Venous and Capillary Blood Using Novel Device Strongly Correlate in Paediatric Inflammatory Bowel Disease Patients.**
Journal of Pediatric Gastroenterology & Nutrition: 2021,Volume 72, Issue 1. p. 56-60

Venipuncture vs. Finger prick* | *ELISA* | *mAb* | *TDM

J. Corey Fowler, Taisa, Skubiak, Kirsten, Engelhardt, et. al, **Feasibility of a Noninterventional Decentralized Clinical Trial Model in Adults with Major Depressive Disorder.** Journal of Scientific Innovation in Medicine, 4(1), 2021, 1. DOI: http://doi.org/10.29024/jsim.84

Decentralized Clinical Trial Pilot Study* | *Antidepressants & Antipsychotics* | *Home Sampling

Eric D. Laing, Spencer L. Sterling, Stephanie A. Richard, et al. **Antigen-based multiplex strategies to discriminate SARS-CoV-2 natural and vaccine induced immunity from seasonal human coronavirus humoral responses.** medRxiv 2021.02.10.21251518; doi: https://doi.org/10.1101/2021.02.10.21251518

Serology Study* | *Multiplex Immunoassay* | *Neutralizing Antibodies* | *SARS-CoV-2* | *Cross-Reactivity

David Herrington, The COVID-19 Community Research Partnership Study Group. **Duration of SARS-CoV-2 Sero-Positivity in a Large Longitudinal Sero-Surveillance Cohort: The COVID-19 Community Research Partnership.** medRxiv 2021.01.27.21250615; doi: https://doi.org/10.1101/2021.01.27.21250615

Serosurveillance Study* | *Covid-19* | *Lateral Flow

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Heather Kalish, Carleen Klumpp-Thomas, Sally Hunsberger, et al. **Mapping a Pandemic: SARS-CoV-2 Seropositivity in the United States.** medRxiv 2021.01.27.21250570; doi: https://doi.org/10.1101/2021.01.27.21250570

Covid-19* | *Home Sampling* | *ELISA methodology by NIH* | *Serosurveillance

Michele Protti, Paolo M. Sberna, Roccaldo Sardella, et. al. **VAMS and StAGE as innovative tools for the enantioselective determination of clenbuterol in urine by LC-MS/MS.** Journal of Pharmaceutical and Biomedical Analysis, Volume 195, 2021, 113873

Dried Urine Sampling* | *Chiral Chromatography* | *Anti-doping Applicability

Nicole Ludwig, Anne Hecksteden, Mustafa Kahraman, et al. **Spring is in the air: seasonal profiles indicate vernal change of miRNA activity.** RNA Biol. 2019 Aug;16(8):1034-1043. doi: 10.1080/15476286.2019.1612217

miRNA Expression* | *Seasonal Changes* | *Home Sampling

Xinliu Gao, Cindy Chen, Dong Geng, et. al **Volumetric Absorptive Microsampling (VAMS®) in Therapeutic Protein Bioanalysis by LC-MS/MS: Investigation of Anticoagulant Impact on Assay Performance and Recommendations for Best Practices in Method Development.** Journal of Pharmaceutical and Biomedical Analysis, Volume 196, 2021

EDTA* | *mAbs* | *Non-human Primate PK Study* | *VAMS vs. Serum

Jana Verstraete and Christophe Stove. **Patient-Centric Assessment of Thiamine Status in Dried Blood Volumetric Absorptive Microsamples Using LC–MS/MS Analysis.** Anal. Chem. 2021, 93, 4, 2660–2668

Remote Regions* | *International Guideline Validation* | *Stability Studies* | *Dried vs Liquid Blood

Camilla Marasca, Maria Encarnacion Blanco Arana, Michele Protti, et al. **Volumetric Absorptive Microsampling of Blood for Untargeted Lipidomics.** Molecules 2021, 26(2). https://doi.org/10.3390/molecules26020262

Lipidomics* | *Filter Paper vs. VAMS* | *Wet vs. Dried Blood

2020

Nasrullah Undre, PhD, Ian Dawson, MSc, Varuna Aluvihare, MD. et al. **Validation of a Capillary Dry Blood Sample MITRA-Based Assay for the Quantitative Determination of Systemic Tacrolimus Concentrations in Transplant Recipients.** Therapeutic Drug Monitoring: December 03, 2020 - Volume Publish Ahead of Print - Issue - doi: 10.1097/FTD.0000000000000847

LC–MS/MS* | *Mitra* | *Tacrolimus* | *Therapeutic Drug Monitoring* | *Transplantation

Mylène Penot, Cyril Linard, and Nicolas Taudon. **A Validated Volumetric Absorptive Microsampling-Liquid Chromatography Tandem Mass Spectrometry Method to Quantify Doxycycline Levels in Urine: An Application to Monitor the Malaria Chemoprophylaxis Compliance.** Anal Methods Chem. 2020 Dec 15;2020:8868396. doi: 10.1155/2020/8868396.

VAMS* | *Malaria* | *LCMS* | *Urine Sampling

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Yahdiana Harahap 1 Rasmina Diptasaadya1 Denni Joko Purwanto. **Duration of SARS-CoV-2 Sero-Positivity in a Large Longitudinal Sero-Surveillance Cohort: The COVID-19 Community Research Partnership.** Drug Des Devel Ther. 2020 Dec 31;14:5757-5771

Review | TDM | Clinical Trials

Nasrullah Undre, PhD,* Imran Hussain, PhD,* John Meijer, MSc, et al. **Quantitation of Tacrolimus in Human Whole Blood Samples Using the MITRA** Therapeutic Drug Monitoring: November 02, 2020 - Volume Publish Ahead of Print - Issue - doi: 10.1097/FTD.0000000000000833

LC-MS/MS | MITRA | Tacrolimus | Quantitation | Validation

Christian Tagwerker, Irfan Baig, Eric J Brunson, et al. **Multiplex Analysis of 230 Medications and 30 Illicit Compounds in Dried Blood Spots and Urine.** Spots and Urine, Journal of Analytical Toxicology, 2020;, bkaa125

Urine vs Mitra Dried Blood | LCMS | Illicit drugs | Drug Screen

Mario Thevis, Andre Knoop, Maximilian S. Schaefer, et al. **Can dried blood spots (DBS) contribute to conducting comprehensive SARS-CoV-2 antibody tests?** Drug Test Anal. 2020; 12: 994– 997

SARS-CoV-2 | Lateral flow immunoassay vs ELISA | IgG | IgM

Quanterix **Application of Volumetric Absorptive Microsampling Devices to the Simoa® SARS-CoV-2 IgG Antibody Test.** quanterix.com

SARS-CoV-2 | Antibody | Stability Studies

Alana L. Whitcombe, Reuben McGregor, Alyson Craigie, et al. **Comprehensive analysis of SARS-CoV-2 antibody dynamics in New Zealand.** medRxiv 2020.12.10.20246751

COVID-19 | SARS-CoV-2 | Immunokinetics | Neutralising Antibodies | Spike Protein

Meier, E.R., Creary, S.E., Heeney, M.M. et al. **Hydroxyurea Optimization through Precision Study (HOPS): study protocol for a randomized, multicenter trial in children with sickle cell anemia.** Trials 21, 983 (2020)

Sickle Cell Anemia | Pharmacokinetics| Hydroxyurea | Pediatrics

Ramakrishna R Voggu, Theodore S Brus, Chineta T Barksdale, Paul Severin, Patricia Hansen, Ross Chudnovskiy, Eric Thomas, and Christopher Bailey. **Novel LC–MS/MS method for the determination of selumetinib (AZD6244) in whole blood collected with volumetric absorptive microsampling.** Bioanalysis 2020 12:13, 883-892

AZD6244 | LC–MS/MS | Selumetinib

Carla E Scuderi , Suzanne L Parker , Margaret Jacks, George John, Brett McWhinney , Jacobus Ungerer , Andrew Mallett , Jason A Roberts , Helen Healy & Christine E Staatz. **Kidney transplant recipient's perceptions of blood testing through microsampling and venepuncture.** Bioanalysis 2020 12:13, 873-881

DBS Testing | Survey | Kidney Transplant Recipients | Patient Monitoring | Venipuncture

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Ganesh S Moorthy , Kevin J Downes , Christina Vedar & Athena F Zuppa. **A whole blood microsampling assay for vancomycin: development, validation and application for pediatric clinical study.** Bioanalysis 2020 12:20, 1483-1501

Human Whole Blood | LC–MS/MS | Pediatrics | Therapeutic Drug Monitoring | Vancomycin

Vaibhav Shitole, Komal Bhamare, Prasoon Kumar & Pinaki Sengupta. **Technological advancement in dry blood matrix microsampling and its clinical relevance in quantitative drug analysis.** Bioanalysis 2020 12:20, 1483-1501

Bioanalysis | Dried Blood Microsampling Assay | DBS | Therapeutic Drug Monitoring

Radha Rajasingham, MD, Ananta S Bangdiwala, MS, Melanie R Nicol, et al. **Hydroxychloroquine as pre-exposure prophylaxis for COVID-19 in healthcare workers: a randomized trial.** Bioanalysis 2020 12:13, 957-970

Covid-19 | Hydroxychloroquine | Pre-exposure Pprophylaxis | Clinical Validation

Christopher Bailey, Cecilia Arfvidsson, Lynsey Woodford & Miné de Kock. **Giving patients choices: AstraZeneca's evolving approach to patient-centric sampling.** Bioanalysis 2020 12:13, 957-970

Clinical Operations | DBS | Patient-Centric Sampling | Pharmacodynamic | Pharmacokinetic

Amy M. Knab,,* David C. Nieman,2 Laura M. Zingaretti, Arnoud J. Groen, and Artyom Pugachev. **Proteomic Profiling and Monitoring of Training Distress and Illness in University Swimmers During a 25-Week Competitive Season.** Frontiers in physiology vol. 11 373. 25 May. 2020, doi:10.3389/fphys.2020.00373

Swimming | Proteins | Inflammation | Upper Respiratory Tract Infection | Mental Stress | Proteomics

Wilfredo F. Garcia-Beltran, Tyler E. Miller, Grace Kirkpatrick, Andrea Nixon, Michael G. Astudillo, Diane Yang, Lisa M. Mahanta, Mandakolathur Murali, Anand Dighe, Jochen Lennerz, Julia Thierauf, Vivek Naranbhai, A. John Iafrate. **Remote fingerstick blood collection for SARS-CoV-2 antibody testing.** Pathol Lab Med doi:10.5858/arpa.2020-0713-SA

Serological Studies | Immunoassay | Roche | EUA | Seroprevalence

Mike Stern, Melanie Giebels, Tilman Fey, Margit Lübking, Judith Alferink, and Georg Hempel. **Validation and clinical application of a volumetric absorptive microsampling method for 14 psychiatric drugs**.Bioanalysis 2020 12:16, 1129-1147

Antidepressants | Antipsychotics | Clinical Validation | DBS | LC–MS | Therapeutic Drug Monitoring

István Vincze, James Rudge, Barna Vásárhelyi, and Gellért Balázs Karvaly. **Analysis of 14 drugs in dried blood microsamples in a single workflow using whole blood and serum calibrators** Bioanalysis 2020 12:17, 1243-1261

Clinical Toxicology | DBS | LC–MS/MS | Patient Compliance | Therapeutic Drug Monitoring

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Van Uytfanghe, K., Heughebaert, L., & Stove, C. P. (2020). **Self-sampling at home using volumetric absorptive microsampling: coupling analytical evaluation to volunteers' perception in the context of a large scale study.** Clinical Chemistry and Laboratory Medicine (CCLM) 2020, 000010151520201180

Phosphatidylethanol | Self-Sampling | 14 Patient Appreciation | Home-sampling

Katleen Van Uytfanghe, Maria del Mar Ramirez Fernandez, Aurelie De Vos, Sarah MR. Wille, Christophe Pol Stove. **Quantitation of phosphatidylethanol in dried blood after volumetric absorptive microsampling.** Talanta, 2020, 121694

Phosphatidylethanol | Liquid Chromatography Tandem Mass Spectrometry | Direct Alcohol Marker

Michele Protti, Roberto Mandrioli, Laura Mercolini. **Quantitative microsampling for bioanalytical applications related to the SARS-CoV-2 pandemic: Usefulness, benefits and pitfalls.** Journal of Pharmaceutical and Biomedical Analysis,Volume 191, 2020, 113597

SARS-CoV-2 | Microsampling

Marshall DJ, Kim JJ, Brand S, Bryne C, Keevil BG. **Assessment of tacrolimus and creatinine concentration collected using Mitra microsampling devices.** Annals of Clinical Biochemistry. 2020;57(5):389-396.

Mass Spectrometry | Toxicology | Transplant | Immunosupressants | Kidney Function

Dandan Shan, Joseph M Johnson, Syrena C Fernandes, Muriel Mendes, et al. **SARS-Coronavirus-2 nucleocapsid protein measured in blood using a Simoa ultra-sensitive immunoassay differentiates COVID-19 infection with high clinical sensitivity.** medRxiv 2020.08.14.2017535

Immunoassay | SARS-CoV-2 | Serology | nucleocapsid | Direct Antigen Testing | SIMOA

Pigliasco, F.; Barco, S.; Dubois, S.; Marchese, F.; Striano, P.; Lomonaco, T.; Mattioli, F.; Tripodi, G.; Cangemi, G. C**annabidiol Determination on Peripheral Capillary Blood Using a Microsampling Method and Ultra-High-Performance Liquid Chromatography Tandem Mass Spectrometry with On-Line Sample Preparation.** Molecules. 2020; 25(16):3608.

Cannabidiol | Microsampling | Therapeutic Drug Monitoring | Finger Prick LCMS

Marshall DJ, Adaway JE, Hawley JM, Keevil BG. **Quantification of testosterone, androstenedione and 17-hydroxyprogesterone in whole blood collected using Mitra microsampling devices.** Annals of Clinical Biochemistry. 2020;57(5):351-359. doi:10.1177/0004563220937735

Mass Spectrometry | Steroid Hormones | Evaluation of New Methods

Elodie Lamy, Ileana Runge, Ian Roberts, Haleema Shakur-Still, Stanislas Grassin-Delyle. **Tranexamic acid quantification in human whole blood using liquid samples or volumetric absorptive microsampling devices.** Bioanalysis 2020 12:12, 835-844

Human Whole Blood | Liquid Chromatography | Mass Spectrometry | Tranexamic Acid | VAMS

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Lucía Paniagua-González, Carla Díaz-Louzao, Elena Lendoiro, et.al. **VAMS for Assaying Immunosuppressants from Venous Whole Blood by LC-MS/MS Using a Novel Atmospheric Pressure Ionization Probe (Unispray™).** Journal of Pharmaceutical and Biomedical Analysis, 12 June 2020, In Press, Journal Pre-proof. doi.org/10.1016/j.jpba.2020.113422

Mycophenolic Acid |Tacrolimus | Sirolimus | Everolimus | Cyclosporin A | Stability

Michele Protti, Roberto Mandrioli, Laura Mercolini. **Microsampling and LC–MS/MS for antidoping testing of glucocorticoids in urine.** Bioanalysis (Ahead of Print), 12 Jun 2020. https://doi.org/10.4155/bio-2020-0044

Endogenous & Exogenous Glucocorticoids | Antidoping Testing | Urine Analysis

Carleen Klumpp-Thomas, Heather Kalish, Matthew Drew, et.al. **Standardization of enzyme-linked immunosorbent assays for serosurveys of the SARS-CoV-2 pandemic using clinical and at-home blood sampling.** medRxiv 2020.05.21.20109280; doi: https://doi.org/10.1101/2020.05.21.20109280

SARS-CoV-2 | ELISA | IgG & IgM | Home Sampling | Immunoassay | MAb

Irene van den Broek, Mitra Mastali, Kelly Mouapi, Cory Bystrom, C. Noel Bairey Merz, and Jennifer E. Van Eyk. **Quality Control and Outlier Detection of Targeted Mass Spectrometry Data from Multiplex Protein Panels.** Journal of Proteome Research 2020 19 (6), 2278-2293 doi: 10.1021/acs.jproteome.9b00854

Bottom-up Proteomics | Biomarker Validation

Bian, S., Van den Berghe, N., Vandersmissen, L., Tops, S., Vermeire, S., Ferrante, M., Gils, A., Thomas, D. **Evaluating an easy sampling method using dried blood spots to determine vedolizumab concentrations.** Journal of Pharmaceutical and Biomedical Analysis, 185, 5 Jun 2020, 113224. https://doi.org/10.1016/j.jpba.2020.113224

Clinical Validation | Dried Blood vs. Serum Concentration Correlation Studies

Berends, Sophie E., Bloem, Karien., de Vries, Annick., Schaap, Tiny., Rispens, Theo., Strik, Anne S., Talwar, Rawina., Löwenberg, Mark., D'Haens, Geert R., Mathôt, Ron A. **Monitoring of Adalimumab Concentrations at Home in Patients with Inflammatory Bowel Disease Using Dried Blood Samples.** Therapeutic Drug Monitoring: April 2020 - Volume 42 - Issue 2 - p 289-294 doi:10.1097/FTD.0000000000000686

TDM | ELISA | Immunoassay | mAb | Serum vs. Dried Blood Samples | Home Sampling

Michael M Mbughuni, Maria A Stevens, Loralie J Langman, Yogish C Kudva, William Sanchez, Patrick G Dean, Paul J Jannetto. **Volumetric Microsampling of Capillary Blood Spot vs Whole Blood Sampling for Therapeutic Drug Monitoring of Tacrolimus and Cyclosporin A: Accuracy and Patient Satisfaction.** The Journal of Applied Laboratory Medicine, Volume 5, Issue 3, May 2020, Pages 516–530, https://doi.org/10.1093/jalm/jfaa005

Tacrolimus & Cyclosporin A | TDM | Patient Satisfaction

Leaney, A.E., Horner, C., Grace, P.B., Mawson, D.H. **Selection of a surrogate matrix for the quantification of an endogenous analyte in dried whole blood.** Bioanalysis, 12(6), 25 Mar 2020. https://doi.org/10.4155/bio-2020-0012

25-hydroxyvitamin D3 | LC-MS/MS | Surrogate Matrices

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M Stern, M Giebels, T Fey, M Lübking, J Alferink, G Hempel. **Clinical validation study to derive conversion factors from capillary blood concentration to plasma concentration for venlafaxine and desvenlafaxine.** Pharmacopsychiatry 2020; 53(03): 145, DOI: 10.1055/s-0040-1710132

TDM | VAMS Conversion Factors to Fit Current Therapeutic Reference Ranges

Marasca, C., Protti, M., Mandrioli, R., Atti, A.R., Armirotti, A., Cavalli, A., De Ronchi, D., Mercolini, L. **Whole blood and oral fluid microsampling for the monitoring of patients under treatment with antidepressant drugs.** Journal of Pharmaceutical and Biomedical Analysis, 188, Sep 2020, 113384. https://doi.org/10.1016/j.jpba.2020.113384

Next Gen Antidepressant Reagents | Blood & Oral Fluids | TDM

Thierry P.I.J.M. Canisius, J.W.P. Hans Soons, Pauline Verschuure, Emmeke A. Wammes-van der Heijden, Rob P.W. Rouhl, H.J. Marian Majoie. **Therapeutic drug monitoring of anti-epileptic drugs – a clinical verification of volumetric absorptive micro sampling.** Clinical Chemistry and Laboratory Medicine (Ahead of Print), 11 Feb 2020, https://doi.org/10.1515/cclm-2019-0784

Anti-epileptic Drugs | Correlations of VAMS vs. Conventional Sampling | Stability Studies

Mongongu, C., Moussa, E.M., Semence, F., Roulland, I., Ericsson, M., Coudoré, F., Marchand, A., Buisson, C. **Use of capillary dried blood for quantification of intact IGF-I by LC–HRMS for antidoping analysis.** Bioanalysis (Ahead of Print), 1 June 2020, https://doi.org/10.4155/bio-2020-0013

IGF-1 | Growth Hormone Doping | High-Throughput Quantification | WADA-Requirement Validated

Mandrioli, R., Mercolini, L., Protti ,M. **Blood and Plasma Volumetric Absorptive Microsampling (VAMS) Coupled to LC-MS/MS for the Forensic Assessment of Cocaine Consumption.** Molecules. 2020;25(5):1046. Published 2020 Feb 26. doi:10.3390/molecules25051046

Cocaine & Metabolites | DPX | LC-MS/MS

Moorthy, G.S., Vedar, C., Zane, N.R., Downes, K.J., Prodell, J.L., DiLiberto, M., Zuppa, A.F. **Development and validation of a volumetric absorptive microsampling- liquid chromatography mass spectrometry method for the analysis of cefepime in human whole blood: Application to pediatric pharmacokinetic study.** Journal of Pharmaceutical and Biomedical Analysis, 179, Feb 2020, 113002. https://doi.org/10.1016/j.jpba.2019.113002

Cefepime | Whole Blood vs. Plasma vs. VAMS | PK Study | Pediatrics | Review Article

Li, H. **Volumetric absorptive microsampling in pharmacokinetic studies.** International Journal of Pharmacokinetics, Vol. 4, No. 2, 17 Mar 2020. https://doi.org/10.4155/ipk-2020-0001

Bioanalysis | mAbs | PK/PD | Rodent Studies

Londhe, V., & Rajadhyaksha, M. (2020). **Opportunities and obstacles for microsampling techniques in bioanalysis: Special focus on DBS and VAMS.** Journal of Pharmaceutical and Biomedical Analysis, 182, 113102. doi: 10.1016/j.jpba.2020.113102

Microsampling | VAMS vs. DBS | Method Validation | Review Article

Mohamed, S., Riva, R., Moresco, M., Plazzi, G., & Contin, M. (2020). **Development and validation of volumetric absorptive microsampling coupled with UHPLC–MS/MS for the analysis of gamma-hydroxybutyric acid in human blood.** Biomedical Chromatography. doi: 10.1002/bmc.4781

γ-hydroxybutyric Acid | UHPLC-MS/MS

Marchand, A., Roulland, I., Semence, F., & Audran, M. (2020). **Volumetric Absorptive Microsampling (VAMS) technology for IGF-1 quantification by automated chemiluminescent immunoassay in dried blood.** Growth Hormone & IGF Research, 50, 27–34. doi: 10.1016/j.ghir.2019.12.001

IGF-1 dosage | Immunoassay | Serum vs. Capillary Blood vs. Venous Blood

Nakadi, F. V., Garde, R., Márcia A. M. S. Da Veiga, Cruces, J., & Resano, M. (2020). **A simple and direct atomic absorption spectrometry method for the direct determination of Hg in dried blood spots and dried urine spots prepared using various microsampling devices.** Journal of Analytical Atomic Spectrometry, 35(1), 136–144. doi: 10.1039/c9ja00348g

Mercury | Hg | Atomic Absorption Spectroscopy

2019

Wickremsinhe, E., Short, M., Talkington, B., & West, L. (2019). **DIY Blood Sampling for Pediatric Clinical Trials—The Patients Perspective.** Applied Clinical Trials. Sep. 30, 2019.

Pediatrics | At-home Sample Collection | Patient Perspective

Fehlmann, T., Backes, C., Pirritano, M., Laufer, T., Galata, V., Kern, F., Kahraman, M., Gasparoni, G., Ludwig, N., Lenhof, H., Gregersen, H.A., Francke, R., Meese, E., Simon, M., Keller, A. **The sncRNA Zoo: a repository for circulating small noncoding RNAs in animals.** Nucleic Acids Research, Volume 47, Issue 9, 21 May 2019, Pages 4431–4441, https://doi.org/10.1093/nar/gkz227

sncRNAs | Low-input-volume NGS | 19 Animal Species

Shufelt, C., Dzubur, E., Joung, S. et al. **A protocol integrating remote patient monitoring patient reported outcomes and cardiovascular biomarkers.** npj Digit. Med. 2, 84 (2019). https://doi.org/10.1038/s41746-019-0145-6

Biomarkers | Prediction, Risk, & Evaluation of Major Cardiac Events (PRE-MACE) | Proteomics

Moorthy, G.S., Vedar, C., DiLiberto, M., Zuppa, A.F. **A patient-centric liquid chromatography-tandem mass spectrometry microsampling assay for analysis of cannabinoids in human whole blood: Application to pediatric pharmacokinetic study.** Journal of Chromatography B, 1130-1131, Nov 2019, 121828. https://doi.org/10.1016/j.jchromb.2019.121828

THC, CBD, CBN | Whole Blood vs. Plasma vs. VAMS | PK Study | Pediatric Clinical Samples

Velghe, S., Delahaye, L., Ogwang, R., Hotterbeekx, A., Colebunders, R., Mandro, M., … Stove, C. P. (2019). **Dried blood microsampling-based therapeutic drug monitoring of anti-epileptic drugs in children with nodding syndrome and epilepsy in Uganda and the Democratic Republic of the Congo.** Therapeutic Drug Monitoring, 1. doi: 10.1097/ftd.0000000000000720

Nodding Syndrome Epilepsy | VAMS vs. DBS | Low-resource Region

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Wang, J., Li, D., Wiltse, A., Emo, J., Hilchey, S. P., & Zand, M. S. (2019). **Application of volumetric absorptive microsampling (VAMS) to measure multidimensional anti-influenza IgG antibodies by the mPlex-Flu assay.** Journal of Clinical and Translational Science, 3(6), 332–343. doi: 10.1017/cts.2019.410

mPlex-Flu assay | Influenza A Virus Antibodies

Abu-Rabie, P., Neupane, B., Spooner, N., Rudge, J., Denniff, P., Mulla, H., & Pandya, H. (2019). **Validation of methods for determining pediatric midazolam using wet whole blood and volumetric absorptive microsampling.** Bioanalysis, 11(19), 1737–1754. doi: 10.4155/bio-2019-0190

Pediatrics | PK Study | Wet vs. Dried Blood

Capiau, S., Veenhof, H., Koster, R. A., Bergqvist, Y., Boettcher, M., Halmingh, O., … Alffenaar, J.-W. C. (2019). **Official International Association for Therapeutic Drug Monitoring and Clinical Toxicology Guideline.** Therapeutic Drug Monitoring, 41(4), 409–430. doi: 10.1097/ftd.0000000000000643

Dried Blood Sample Method Validation | Microsampling | Therapeutic Drug Monitoring

Gustavsen, M. T., Midtvedt, K., Vethe, N. T., Robertsen, I., Bergan, S., & Åsberg, A. (2019). **Tacrolimus area under the concentration versus time curve monitoring, using home-based volumetric absorptive capillary microsampling.** Therapeutic Drug Monitoring, 1. doi: 10.1097/ftd.0000000000000697

Tacrolimus | AUC-target | Therapeutic Drug Monitoring

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Paper Spray | Drugs of Abuse Testing | Saliva

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Small Molecule | Anticoagulant | Bioanalytical Validation

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Animal Testing | PK Study | vs. Capillary Tubes

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Antimicrobials | Blood Plasma | Stability Studies

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Microsampling Technology Validation | Dried Blood

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