

Division of Laboratory Sciences

Second Quarter 2023 Publications.

National Biomonitoring Program.

[Metals and per- and polyfluoroalkyl substances mixtures and birth outcomes in the New Hampshire Birth Cohort Study: Beyond single-class mixture approaches.](#) Yim G, McGee G, Gallagher L, Baker E, Jackson BP, Calafat AM, Botelho JC, Gilbert-Diamond D, Karagas MR, Romano ME, Howe CG. Chemosphere. 2023 Jul;329:138644. doi: 10.1016/j.chemosphere.2023.138644. Epub 2023 Apr 7.

[Early pregnancy phthalates and replacements in relation to fetal growth: The human placenta and phthalates study.](#) Stevens DR, Rosen EM, Van Wickle K, McNell EE, Bommarito PA, Calafat AM, Botelho JC, Sinkovskaya E, Przybylska A, Saade G, Abuhamad A, Ferguson KK. Environ Res. 2023 Jul 15;229:115975. doi: 10.1016/j.envres.2023.115975. Epub 2023 Apr 23.

[Pregnancy pesticide exposure and child development in low- and middle-income countries: A prospective analysis of a birth cohort in rural Bangladesh and meta-analysis.](#) Bliznashka L, Roy A, Christiani DC, Calafat AM, Ospina M, Diao N, Mazumdar M, Jaacks LM. PLoS One. 2023 Jun 9;18(6):e0287089. doi: 10.1371/journal.pone.0287089. eCollection 2023.

[Adolescent endocrine disrupting chemical exposure and academic achievement.](#) Shoaff JR, Hahn J, Calafat AM, Korrick SA. Environ Res. 2023 Oct 1;234:116493. doi: 10.1016/j.envres.2023.116493. Epub 2023 Jun 29.

[Evaluating Exposure to VOCs and Naphthalene for Firefighters Wearing Different PPE Configurations through Measures in Air, Exhaled Breath, and Urine.](#) Mayer AC, Fent KW, Wilkinson AF, Chen IC, Siegel MR, Toennis C, Sammons D, Meadows J, Kesler RM, Kerber S, Smith DL, Masoud F, Bhandari D, Wang Y, Blount BC, Calafat AM, Horn GP. Int J Environ Res Public Health. 2023 Jun 6;20(12):6057. doi: 10.3390/ijerph20126057.

[Associations of Maternal Urinary Concentrations of Phenols, Individually and as a Mixture, with Serum Biomarkers of Thyroid Function and Autoimmunity: Results from the EARTH Study.](#) McGee G, Génard-Walton M, Williams PL, Korevaar TIM, Chavarro JE, Meeker JD, Braun JM, Broeren MA, Ford JB, Calafat AM, Souter I, Hauser R, Mínguez-Alarcón L. Toxics. 2023 Jun 9;11(6):521. doi: 10.3390/toxics11060521.

[Plasma concentrations of per- and polyfluoroalkyl substances in pregnancy and breastfeeding duration in Project Viva.](#) Rokoff LB, Wallenborn JT, Harris MH, Rifas-Shiman SL, Criswell R, Romano ME, Young JG, Calafat AM, Oken E, Sagiv SK, Fleisch AF. Sci Total Environ. 2023 Sep 15;891:164724. doi: 10.1016/j.scitotenv.2023.164724. Epub 2023 Jun 7.

[Per- and Polyfluoroalkyl Substances \(PFAS\) Mixture during Pregnancy and Postpartum Weight Retention in the New Hampshire Birth Cohort Study \(NHBCS\).](#) Wang Y, Howe C, Gallagher LG, Botelho JC, Calafat AM, Karagas MR, Romano ME. Toxics. 2023 May 10;11(5):450. doi: 10.3390/toxics11050450.

[Associations of prenatal and postnatal exposure to perfluoroalkyl substances with pubertal development and reproductive hormones in females and males: The HOME study.](#) Liu Y, Calafat AM, Chen A, Lanphear BP, Jones NY, Cecil KM, Rose SR, Yolton K, Buckley JP, Braun JM. *Sci Total Environ.* 2023 Sep 10;890:164353. doi: 10.1016/j.scitotenv.2023.164353. Epub 2023 May 22.

[Prenatal exposures to per- and polyfluoroalkyl substances and epigenetic aging in umbilical cord blood: The Healthy Start study.](#) Niemiec SS, Kechris K, Pattee J, Yang IV, Adgate JL, Calafat AM, Dabelea D, Starling AP. *Environ Res.* 2023 Aug 15;231(Pt 2):116215. doi: 10.1016/j.envres.2023.116215. Epub 2023 May 22.

Tobacco Laboratory.

[Tobacco Smoke Is a Major Source of Aromatic Amine Exposure in U.S. Adults: 2013-2014 National Health and Nutrition Examination Survey \(NHANES\).](#) Seyler T, Mazumder S, Ahamed R, Zhu W, Blount BC, Apelberg BJ, Wang L. *Cancer Epidemiol Biomarkers Prev.* 2023 May 17:OF1-OF9. doi: 10.1158/1055-9965.EPI-23-0071.

Newborn Screening Laboratories.

[Multiplexing Iduronate-2-Sulphatase \(MPS-II\) into a 7-Plex Lysosomal Storage Disorder MS/MS Assay Using Cold-Induced Phase Separation.](#) Courtney E, Pickens CA, Cuthbert C, Petritis K. *Int J Neonatal Screen.* 2023 Jun 8;9(2):32. doi: 10.3390/ijns9020032.

Nutrition, Chronic, and Infectious Disease Laboratories.

[Assessment of WHO 07/202 reference material and human serum pools for commutability and for the potential to reduce variability among soluble transferrin receptor assays.](#) Lyle AN, Budd JR, Kennerley VM, Smith BN, Danilenko U, Pfeiffer CM, Vesper HW. *Clin Chem Lab Med.* 2023 Apr 18;61(10):1719-1729. doi: 10.1515/cclm-2022-1198. Print 2023 Sep 26.

[Quantification of SARS-CoV-2 spike protein expression from mRNA vaccines using isotope dilution mass spectrometry.](#) Sutton WJH, Branham PJ, Williamson YM, Cooper HC, Najjar FN, Pierce-Ruiz CL, Barr JR, Williams TL. *Vaccine.* 2023 Jun 13;41(26):3872-3884. doi: 10.1016/j.vaccine.2023.04.044. Epub 2023 May 8.

[Analysis of the N-glycosylation profiles of the spike proteins from the Alpha, Beta, Gamma, and Delta variants of SARS-CoV-2.](#) Wang D, Baudys J, Osman SH, Barr JR. *Anal Bioanal Chem.* 2023 Aug;415(19):4779-4793. doi: 10.1007/s00216-023-04771-y. Epub 2023 Jun 24.

[Confirmation of Statin and Fibrate Use from Small-Volume Archived Plasma Samples by High-Throughput LC-MS/MS Method.](#) Kusovschi JD, Ivanova AA, Gardner MS, McGarrah RW 3rd, Kraus WE, Kuklenyik Z, Pirkle JL, Barr JR. *Int J Mol Sci.* 2023 Apr 27;24(9):7931. doi: 10.3390/ijms24097931.

[Estimating the serum folate concentration that corresponds to the red blood cell folate concentration threshold associated with optimal neural tube defects prevention: A population-based biomarker survey in Southern India.](#) Fothergill A, Crider KS, Rose CE, Bose B, Guetterman HM, Johnson CB, Jabbar S, Zhang M, Pfeiffer CM, Qi YP, Williams JL, Kuriyan R, Bonam W, Finkelstein JL. *Am J Clin Nutr.* 2023 May;117(5):985-997. doi: 10.1016/j.ajcnut.2023.01.016. Epub 2023 Apr 19.

[Folate and vitamin B12 usual intake and biomarker status by intake source in United States adults aged \$\geq 19\$ y: NHANES 2007-2018.](#) Zhou Y, Wang A, Yeung LF, Qi YP, Pfeiffer CM, Crider KS. Am J Clin Nutr. 2023 Jul;118(1):241-254. doi: 10.1016/j.ajcnut.2023.05.016. Epub 2023 May 11.

Chemical Threat Agents and Toxins Laboratories.

[A pilot PT scheme for external assessment of laboratory performance in testing synthetic opioid compounds in urine, plasma, and whole blood.](#) Hart ED, Bynum ND, Evans A, Swanson KD, Blake TA. Forensic Sci Int. 2023 Jun;347:111679. doi: 10.1016/j.forsciint.2023.111679. Epub 2023 Apr 5.