**Supplemental Table 1: Overview of biological variation studies with their BIVAC grade and the included measurands.**

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| **Reference ID** | **References** | **BIVAC grade** | **Measurands** |
| 17 | Browning MC, Ford RP, Callaghan SJ, Fraser CG. Intra- and interindividual biological variation of five analytes used in assessing thyroid function: implications for necessary standards of performance and the interpretation of results. Clin Chem 1986;32:962-6. | C 8,10,13 | TSH,  T4,  fT4,  T3,  fT3 TG |
| 19 | Browning MC, Bennet WM, Kirkaldy AJ, Jung RT. Intra-individual variation of thyroxin, triiodothyronine, and thyrotropin in treated hypothyroid patients: implications for monitoring replacement therapy. Clin Chem 1988; 34:696-9. | C 8,12 | TSH,  T4,  fT4,  T3,  fT3 |
| 40 | Feldt-Rasmussen U, Petersen PH, Blaabjerg O and Horder M. Long-term variability in serum thyroglobulin and thyroid related hormones in healthy subjects. Acta Endocrinologica 1980;95:328-34. | C 8,10,11,13 | TSH,  T4,  fT4,  T3  TBG |
| 75 | Hölzel WGE, Deschner W. 1988, Clin Chem, 34, 2063-65 , Intra-individual variation of serum thytoxin and triiodothyronine in pregnancy | C 8 | T4,  T3 |
| 91 | Juan-Pereira L., Navarro M. A., Roca M., Fuentes-Arderiu X, 1991, Clin Chem, 37, 772-773, Within-subject variation of thyroxin and triiodo thyronine concentration in serum | C 8,10,11 | T4,  T3 |
| 134 | Polo MJ, Ricós C, Catalán R, Juvany R, 1992, Med Clin, 99, 529-31 , Aplicación clínica de los datos de variabilidad biológica de las hormonas tiroideas | C 12 | TSH,  T4,  fT4,  T3 |
| 137 | Ricós C and Arbós MA. Quality goals for hormone testing. Ann Clin Biochem 1990;27:353-8. | C 4,8,10 | TSH,  T4,  T3  TBG |
| 207 | Jensen E, Petersen PH, Blaabjerg O and Hegedüs L, 2007, Clin Chem Lab Med, 45, 1058-64, Biological variation of thyroid autoantibodies and thyroglobulin | C 8 | TG Anti TPO Ab,  Anti TG Ab |
| 209 | Ankrah-Tetteh T, Wijeratne S and Swaminathan R, Intraindividual variation in serum thyroid hormones, parathyroid hormone and insulin-like growth factor-1. Ann Clin Biochem 2008; 45:167-9 | C 7,8,10,13 | TSH,  fT4, fT3 |
| 240 | Maes M, Mommen K, Hendrickx D, Peeters D, D’Hondt P, Ranjan R, De Meyer F and Scharpé S. Components of biological variation, including seasonality, in blood concentrations of TSH, TT3, FT4, PRL, cortisol and testosterone in healthy volunteers. Clin Endocrinol 1997;46:587-98. | C 8,10,11 | TSH,  fT4, T3 |
| 342 | Loh TPL, Sethi SK and Metz MP. Paediatric reference and biological variation trends of thyrotropin (TSH) and free thyroxine (T4) in an Asian population. J Clin Pathol 2015;68:642-7. | C 10,11,12 | TSH,  fT4 |
| 413 | Oladipo O, Nenninger DA, Parvin Ca and Dietzen DJ. Intraindividual variability of thyroid function tests in a pediatric population. Clin Chim Acta 2010; 411:1143-5. | C 5,8,10,13 | TSH,  T4,  fT4 |
| 521 | Jesper Karmisholt, Stig Andersen, Peter Laurberg. Analytical Goals for Thyroid Function Tests When Monitoring Patients With Untreated Subclinical Hypothyroidism. Scand J Clin Lab Invest 2010 Jul;70: 264-8. | C 8,10 | TSH,  fT4, fT3 |
| 522 | Stig Andersen, Paneeraq Noahsen, Louise Westergaard, Peter Laurberg, 2017, Br J Nutr , 117(3), 441-449 , Reliability of Thyroglobulin in Serum Compared With Urinary Iodine When Assessing Individual and Population Iodine Nutrition Status | C 8,11,12 | TG |
| 526 | González C, Hernando M, Cava F, Herrero E, García-Díez LC, Navajo JA, González-Buitrago JM, 2002, J Clin Lab Anal, 16, 37-9, Biological variability of thyroid autoantibodies (anti-TPO and anti-Tg) in clinically and biochemically stable patients with autoimmune thyroid disease | C 6,8,10 | Anti TPO Ab, Anti TG Ab |
| 527 | Mairesse A, Wauthier L, Courcelles L, Luyten U, Burlacu MC, Maisin D, Favresse J, van Dievoet MA, Gruson D. Biological variation and analytical goals of four thyroid function biomarkers in healthy European volunteers. Clin Endocrinol , 2020, (Online ahead of print). | B 7 | TSH,  fT4, fT3 TG |
| 547 | Bottani M, Aarsand AK, Banfi G, Locatelli M, Coşkun A, Diaz-Garzon J et al. European Biological Variation Study (EuBIVAS): within- and between-subject biological variation estimates for serum thyroid biomarkers based on weekly samplings from 91 healthy participants. Clin Chem Lab Med 2021; aop, https://doi.org/10.1515/cclm-2020-1885 | A | TSH,  fT4, fT3 TG |

\* Any other complementary information is accessible on the website (https://biologicalvariation.eu)