

Assessment of total vitamin D intake from foods and dietary supplements (DSs) may be incomplete if 25-hydroxyvitamin D [25(OH)D] intake is not included. However, 25(OH)D data for such intake assessments are lacking, no food or DS reference materials (RMs) are available, and comparison of laboratory performance has been needed. The primary goal of this study was to evaluate whether vitamin D3 and 25(OH)D3 concentrations in food and DS materials could be measured with acceptable reproducibility. Five experienced laboratories from the United States and other countries participated, all using liquid chromatography tandem-mass spectrometry but no common analytical protocol; however, various methods were used for determining vitamin D3 in the DS. Five animal-based materials (including three commercially available RMs) and one DS were analyzed. Reproducibility results for the materials were acceptable. Thus, it is possible to obtain consistent results among experienced laboratories for vitamin D3 and 25(OH)D3 in foods and a DS.

General information
Publication status: Published
Organisations: National Food Institute, Research group for Bioactives – Analysis and Application
Number of pages: 9
Pages: 3167-3175
Publication date: 2016
Peer-reviewed: Yes

Publication information
Journal: Journal of Agricultural and Food Chemistry
Volume: 64
Issue number: 16
ISSN (Print): 0021-8561
Ratings:
BFI (2016): BFI-level 2
Scopus rating (2016): CiteScore 3.45 SJR 1.305 SNIP 1.348
Web of Science (2016): Impact factor 3.154
Web of Science (2016): Indexed yes
Original language: English
Keywords: 25-hydroxyvitamin D3 (25-hydroxycholecalciferol), dietary supplement, food, reference material, vitamin D3 (cholecalciferol)
Electronic versions:
ANSA_nihms797707.pdf
DOIs:
10.1021/acs.jafc.5b05016
Source: FindIt
Source ID: 2303379037
Research output: Contribution to journal › Journal article – Annual report year: 2016 › Research › peer-review