Separation of Vitamin D2 from D3 and Other Fat-Soluble Vitamins

Application

Food Analysis

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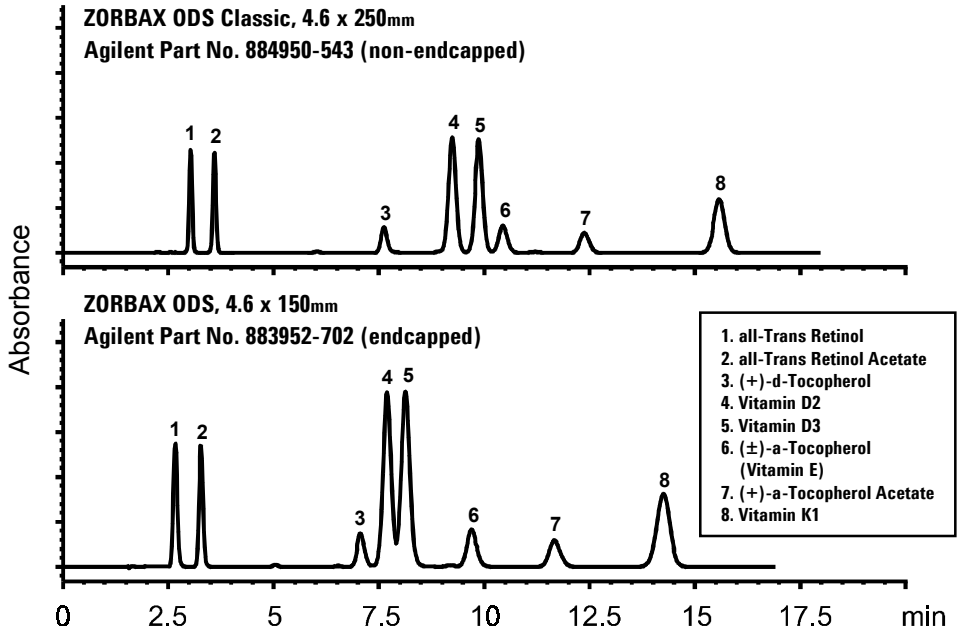
Analysis of fat-soluble vitamins is of widespread importance in clinical diagnosis, general research, and food product analysis. Separation of vitamins D2 and D3 is particularly difficult. Change in retention and resolution of these D vitamins and others is shown for both a classic, non-endcapped Agilent ZORBAX ODS column and its endcapped counterpart. Endcapping of bonded phases is performed in an effort to minimize secondary interaction of polar sample components with the column packing.



Conditions:
LC: Hewlett Packard HP 1050
Mobile Phase: 75% ACN : 25% MeOH
Det.: UV: 325 nm for 4 min., 280 nm after
Flow: 1.0 mL/min.; 40°C
Inj Vol: 5 µL (10 µg / µL)

Highlights

- *The non-endcapped ZORBAX ODS column outperforms the endcapped ODS in obtaining resolution of vitamins D2 and D3.*
- *Endcapped and non-endcapped versions of the ZORBAX ODS column are both able to separate a wide variety of fat-soluble vitamins; although, with differing selectivities (see peak pairs 3-4 and 5-6).*

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