



## Vitamins Profile

### Service Code: Vitamins

**Summary:** Extraction of fat- and water-soluble vitamins in plasma by LLE. After extraction, supernatants are dried and reconstituted, separated by RPLC and analyzed by ESI<sup>-</sup> by MRM methods. Values are reported as uM, while CV's are generally 10%.

Container:

Normal Volume: 100 uL blood serum or plasma

Minimal Volume: 50 uL

**Special Handling:** If human or primate, note any known presence of infectious agents

**Sample Collection:** : Please see our detailed sample collection protocol on the Michigan Regional Comprehensive Metabolomics Resource Core (MRC<sup>2</sup>) website before preparing samples for analysis or contact the core director at the number below for details.

Reference:

Simultaneous quantification of water-soluble and fat-soluble vitamins in parenteral nutrition admixtures by HPLC-UV-MS/MS. Raphaël Vazquez, PharmD; My-Dung Le Hoang, PhD; Jean Martin, PharmD; Yasmine Ait Yahia, PharmD; Hervé Graffard, BSc; François Guyon, PharmD, PhD; Bernard Do, PharmD, PhD, EJHP Science, 15,2009, 28-35

**Table I: Analytes reported. Others available on special request:**

Analyte	Abbr.	Formula	MRM	LOQ(nM)
<i>trans</i> -Retinal	Vit A	C <sub>20</sub> H <sub>28</sub> O	26->93	50
Thiamine	Vit B1	C <sub>12</sub> H <sub>17</sub> CIN <sub>4</sub> OS	265->122	10
Riboflavin	Vit B2	C <sub>17</sub> H <sub>20</sub> N <sub>4</sub> O <sub>6</sub>	377.1->243.1	50
Nicotinamide	Vit B3	C <sub>6</sub> H <sub>6</sub> N <sub>2</sub> O	123->80	10
D-Pantothenate	Vit B5	C <sub>9</sub> H <sub>17</sub> NO <sub>5</sub>	220->90	50
Pyridoxine	Vit B6	C <sub>8</sub> H <sub>11</sub> NO <sub>3</sub>	170.1->152	50
Cyanocobalamin	Vit B12	C <sub>63</sub> H <sub>88</sub> CoN <sub>14</sub> O <sub>14</sub> P	1355.5->912.3	300
Cholecalciferol	Vit D3	C <sub>27</sub> H <sub>44</sub> O	38->107	10
(±)alpha-tocopherol	Vit E	C <sub>29</sub> H <sub>50</sub> O <sub>2</sub>	431->165	10
Biotin	Vit H	C <sub>10</sub> H <sub>16</sub> N <sub>2</sub> O <sub>3</sub> S	245.2->227.2	50
Phylloquinone	Vit K1	C <sub>31</sub> H <sub>46</sub> O <sub>2</sub>	451->187	10