NQAC
Nestlé Quality Assurance Center
Dublin

Technical Datasheet

Analysis Name: Total Choline and Carnitine by Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS)

Method Number: OM-AOAC-2015.10

Scope of Application: Milk- and soy-based infant formula, adult and infant ready-to-feed formula, raw whey and soy materials, wet and dry pet foods/culinary products, and gummy based vitamins.

Description: The method uses an acid-assisted microwave hydrolysis for total choline and L-carnitine analysis. Both compounds are simultaneously analyzed and quantified by LC/MS/MS with ESI.

Sample Weight Required: 50 g

Method Reference: Ellingson, D.J.; Shippar, J.J.; Gilmore, J.M. (2016) Determination of Free and Total Choline and Carnitine in Infant Formula and Adult/Pediatric Nutritional Formula by Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS): Single-Laboratory Validation, First Action 2015.10. *Journal of AOAC International*, Vol. 99, No1,204-209(6) http://dx.doi.org/10.5740/jaoacint.15-0144

Analytical Platform: UPLC – LC/MS/MS

Special Information: For premixes or commodities, please specify the choline form (hydrochloride or bitartrate). Provide Certificate of Analysis (COA) or estimated levels for premixes.

Analyte Reported	Alias	Unit of Measure	Limit of Quantification	Reproducibility
Choline, total	Choline, total as choline hydroxide	mg/100 g	1	10%
Choline ion	Choline ion	mg/100 g	0.9	10%
L-carnitine, total	L-carnitine, total as free base	mg/100 g	0.5	15%

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