

SCIENTIFIC OPINION

Lipil® and brain development

Scientific substantiation of a health claim related to Lipil® and brain development pursuant to Article 14 of Regulation (EC) No 1924/2006¹

Scientific Opinion of the Panel on Dietetic Products, Nutrition and Allergies

(Question No EFSA-Q-2008-690)

Adopted on 13 March 2009

PANEL MEMBERS

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SUMMARY

Following an application from Mead Johnson & Company submitted pursuant to Article 14 of Regulation (EC) No 1924/2006 via the Competent Authority of France, the Panel on Dietetic Products, Nutrition and Allergies was asked to deliver an opinion on the scientific substantiation of a health claim related to Lipil® and brain development.

The scope of the application was proposed to fall under a health claim referring to children's development and health.

The food constituent which is the subject of the health claim is Lipil®. DHA and ARA in Lipil® are derived from single cell oils. The absorption of DHA and ARA is well documented. The Panel considers that the food constituents DHA and ARA are sufficiently characterised.

The claimed effect is the contribution to the optimal brain development of infants and young children. The target population proposed by the applicant is infants and young children (from birth to three years of age). The Panel considers that contribution to the normal development of the brain is beneficial for infants' and children's development and health.

The applicant identified a total 33 publications as being pertinent to the health claim for humans (13 RCTs, one meta-analysis of RCTs, one observational cohort study, three postmortem studies, six reviews, seven expert recommendations and two abstracts containing unpublished data).

¹ For citation purposes: Scientific Opinion of the Panel on Dietetic Products, Nutrition and Allergies on a request from Mead Johnson & Company on Lipil® and brain development. *The EFSA Journal* (2009) 1001, 1-8

All the studies presented by the applicant as pertinent to the health claim have been already evaluated by the Panel in a previous Opinion in relation to the effects of DHA and ARA on brain development in infants and young children (from birth to three years of age). No data has been presented showing an effect of any of the components of Lipil® on brain development in addition to those observed for DHA and ARA. The Opinion of the Panel on the effects of DHA and ARA supplementation on brain development in infants and young children applies to the present application (EFSA, 2009).

On the basis of the data presented, the Panel concludes that the data presented are insufficient to establish a cause and effect relationship between the intake of infant and follow-on formula supplemented with DHA at levels around 0.3% of the fatty acids and a ratio ARA:DHA between 1.4:1 and 2:1 and the contribution to normal brain development in infants and young children from birth to three years of age.

Key words: Docosahexaenoic acid, arachidonic acid, brain development, infants, children

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BACKGROUND

Regulation (EC) No 1924/2006² harmonises the provisions that relate to nutrition and health claims and establishes rules governing the Community authorisation of health claims made on foods. As a rule, health claims are prohibited unless they comply with the general and specific requirements of that Regulation and are authorised in accordance with this Regulation and included in the lists of authorised claims provided for in Articles 13 and 14 thereof. In particular, Articles 14 to 17 of that Regulation lay down provisions for the authorisation and subsequent inclusion of reduction of disease risk claims and claims referring to children's development and health in a Community list of permitted claims.

According to Article 15 of that Regulation, an application for authorisation shall be submitted by the applicant to the national competent authority of a Member State, who will make the application and any supplementary information supplied by the applicant available to European Food Safety Authority (EFSA).

Steps taken by EFSA:

- The application was received on 14/02/2008.
- The scope of the application was proposed to fall under a health claim referring to children's development and health.
- During the check for completeness³ of the application, the applicant was requested to provide missing information on 21/03/2008 and on 23/09/2008.
- The applicant provided the missing information on 31/08/2008 and on 06/10/2008.
- The scientific evaluation procedure started on 15/10/2008.
- During the meeting on 13/03/2009, the NDA Panel, after having evaluated the overall data submitted, adopted an opinion on the scientific substantiation of a health claim related to Lipil® and brain development.

TERMS OF REFERENCE

EFSA is requested to evaluate the scientific data submitted by the applicant in accordance with Article 16 of Regulation (EC) No 1924/2006. On the basis of that evaluation, EFSA will issue an opinion on the scientific substantiation of a health claim related to: Lipil® and brain development.

EFSA DISCLAIMER

The present opinion does not constitute, and cannot be construed as, an authorisation to the marketing of Lipil®, a positive assessment of its safety, nor a decision on whether Lipil® is, or is not, classified as a foodstuff. It should be noted that such an assessment is not foreseen in the framework of Regulation (EC) No 1924/2006.

It should also be highlighted that the scope, the proposed wording of the claim and the conditions of use as proposed by the applicant may be subject to changes, pending the outcome of the authorisation procedure foreseen in Article 17 of Regulation (EC) No 1924/2006.

² European Parliament and Council (2006). Regulation (EC) No 1924/2006 of the European Parliament and of the Council of 20 December 2006 on nutrition and health claims made on foods. Official Journal of the European Union OJ L 404, 30.12.2006. Corrigendum OJ L 12, 18.1.2007, p. 3–18.

³ In accordance with EFSA "Scientific and Technical guidance for the Preparation and Presentation of the Application for Authorisation of a Health Claim"

ACKNOWLEDGEMENTS

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1. Information provided by the applicant

Applicant's name and address: Mead Johnson Nutritionals, 3 rue Joseph Monier-BP 325, 92506 Rueil-Malmaison Cedex, France.

The application includes a request for the protection of proprietary data.

1.1. Food/constituent as stated by the applicant

The food constituent is Lipil®, consisting of docosahexaenoic acid (DHA) and arachidonic acid (ARA) from single cell oils, at a level of 17 mg DHA per 100 kcal of product (~ 0.3% of total fatty acids) and a ratio of ARA: DHA between 1.4:1 and 2:1.

1.2. Health relationship as claimed by the applicant

Lipil® contains docosahexaenoic acid (DHA) and arachidonic acid (ARA) in a specific level and ratio. DHA and ARA are important constituents of brain and retinal tissues. DHA and ARA contribute to the optimal brain development of infants and young children.

1.3. Wording of the health claim as proposed by the applicant

Lipil® contributes to optimal brain development of infants and young children.

1.4. Specific conditions of use as proposed by the applicant

Condition of use for the claim: the formula contains at least 0.3% of the fatty acids as DHA (17 mg per 100 kcal of product) and the ratio ARA: DHA is between 1.4:1 and 2:1.

2. Assessment

2.1. Characterisation of the food/constituent

The food constituent which is the subjects of the health claim is Lipil®, a refined, bleached and deodorised algal vegetable oil consisting of docosahexaenoic acid (DHA) and arachidonic acid (ARA) at a level of 17 mg DHA per 100 kcal of product (~0.3% of total fatty acids) with a ratio of ARA: DHA between 1.4:1 and 2:1 for which complete specifications, manufacturing process, stability information and complete fatty acid spectra are provided. The DHA and ARA in Lipil® are derived from single cell oils. DHA is derived from the alga *Cryptocodinium cohnii* and ARA from the fungus *Mortierella alpina*. The oil also contains ascorbyl palmitate and mixed tocopherols as antioxidants.

DHA and ARA are well characterised fatty acids the absorption of which is well documented and can be quantified in foods by established methods. This evaluation will apply to DHA and ARA from all sources with appropriate bioavailability in the specified amounts.

The Panel considers that the food constituents DHA and ARA are sufficiently characterised.

2.2. Relevance of the claimed effect to human health

The claimed effect is the contribution to the optimal brain development of infants and young children. The target population proposed by the applicant is infants and young children (from birth to three years of age).

The Panel considers that contribution to the normal development of the brain is beneficial for infants' and children's development and health.

2.3. Scientific substantiation of the claimed effect

The applicant performed a literature search in PubMed and Scopus to identify randomised controlled trials (RCTs) on the effects of formulae intended for infants and young children (from birth to 36 months) containing DHA and ARA on brain and cognitive development (as primary or secondary outcome) with the following search terms: DHA, ARA, infant, brain, cognitive, mental, long-chain polyunsaturated fatty acids, fatty acids, omega 3, omega 6, toddler milk and all combinations of terms. The snow ball method (search for additional references in the papers identified through the search) was used for hand searching.

The applicant identified a total 33 publications as being pertinent to the health claim for humans (13 RCTs, one meta-analysis of RCTs, one observational cohort study, three postmortem studies, six reviews, seven expert recommendations and two abstracts containing unpublished data).

All the studies presented by the applicant as pertinent to the health claim have been already evaluated by the Panel in a previous Opinion in relation to the effects of DHA and ARA on brain development in infants and young children (from birth to three years of age). No data has been presented showing an effect of any of the components of Lipil® on brain development in addition to those observed for DHA and ARA. The Opinion of the Panel on the effects of DHA and ARA supplementation on brain development in infants and young children applies to the present application (EFSA, 2009).

The Panel concludes that the data presented are insufficient to establish a cause and effect relationship between the intake of infant and follow-on formula supplemented with DHA at levels around 0.3% of the fatty acids and a ratio ARA:DHA between 1.4:1 and 2:1 and the contribution to normal brain development in infants and young children from birth to three years of age.

CONCLUSIONS

On the basis of the data presented, the Panel concludes the following:

- The food constituents DHA and ARA are sufficiently characterised.
- The claimed effects is the contribution to the optimal brain development of infants and young children. The target population proposed by the applicant is infants and young children (from birth to three years of age). Contribution to the normal development of the brain is beneficial for infants' and children's development and health
- The data presented are insufficient to establish a cause and effect relationship between the intake of infant and follow-on formula supplemented with DHA at levels around 0.3% of the fatty acids and a ratio ARA:DHA between 1.4:1 and 2:1 and the contribution to normal brain development in infants and young children (from birth to three years of age)

DOCUMENTATION PROVIDED TO EFSA

Health claim application on Lipil® and brain development pursuant to Article 14 of Regulation (EC) No 1924/2006 (Claim serial No:0131b-FR). October 2008. Submitted by Mead Johnson & Company.

REFERENCES

EFSA (European Food Safety Authority), 2009. Scientific Opinion of the Panel on Dietetic Products, Nutrition and Allergies on a request from Mead Johnson Nutritionals on DHA and ARA and brain development. *The EFSA Journal* (2009) 1000, 1-13

GLOSSARY / ABBREVIATIONS

ARA	Arachidonic acid
DHA	Docosahexaenoic acid
RCTs	Randomised controlled trials