SCIENTIFIC OPINION

Scientific Opinion on the substantiation of health claims related to folate and contribution to normal psychological functions (ID 81, 85, 86, 88), maintenance of normal vision (ID 83, 87), reduction of tiredness and fatigue (ID 84), cell division (ID 195, 2881) and contribution to normal amino acid synthesis (ID 195, 2881) pursuant to Article 13(1) of Regulation (EC) No 1924/2006[1]

EFSA Panel on Dietetic Products, Nutrition and Allergies (NDA)[2, 3]

European Food Safety Authority (EFSA), Parma, Italy

SUMMARY

Following a request from the European Commission, the Panel on Dietetic Products, Nutrition and Allergies was asked to provide a scientific opinion on a list of health claims pursuant to Article 13 of Regulation (EC) No 1924/2006. This opinion addresses the scientific substantiation of health claims in relation to folate and contribution to normal psychological functions, maintenance of normal vision, reduction of tiredness and fatigue, cell division and contribution to normal amino acid synthesis. The scientific substantiation is based on the information provided by the Member States in the consolidated list of Article 13 health claims and references that EFSA has received from Member States or directly from stakeholders.

The food constituent that is the subject of the health claims is folate. The Panel considers that folate is sufficiently characterised.

1 On request from the European Commission, Question No EFSA-Q-2008-868, EFSA-Q-2008-870, EFSA-Q-2008-871, EFSA-Q-2008-872, EFSA-Q-2008-873, EFSA-Q-2008-874, EFSA-Q-2008-875, EFSA-Q-2008-982, EFSA-Q-2008-3614, adopted on 09 July 2010.

2 Panel members: Carlo Agostoni, Jean-Louis Bresson, Susan Fairweather-Tait, Albert Flynn, Ines Golly, Hannu Korhonen, Pagona Lagiou, Martinus Løvik, Rosangela Marchelli, Ambroise Martin, Bevan Moseley, Monika Neuhäuser-Berthold, Hildegard Przyrembel, Seppo Salminen, Yolanda Sanz, Sean (J.J.) Strain, Stephan Strobel, Inge Tetens, Daniel Tomé, Hendrik van Loveren and Hans Verhagen. Correspondence: nda@efsa.europa.eu

3 Acknowledgement: The Panel wishes to thank for the preparatory work on this scientific opinion: The members of the Working Group on Claims: Carlo Agostoni, Jean-Louis Bresson, Susan Fairweather-Tait, Albert Flynn, Ines Golly, Marina Heinonen, Hannu Korhonen, Martinus Løvik, Ambroise Martin, Hildegard Przyrembel, Seppo Salminen, Yolanda Sanz, Sean (J.J.) Strain, Inge Tetens, Hendrik van Loveren and Hans Verhagen. The members of the Claims Sub-Working Group on Mental/Nervous System: Jacques Rigo, Astrid Schloerscheidt, Barbara Stewart-Knox, Sean (J.J.) Strain, Joachim Westenhoefer and Peter Willatts.

Suggested citation: EFSA Panel on Dietetic Products, Nutrition and Allergies (NDA), Scientific Opinion on the substantiation of health claims related to folate and contribution to normal psychological functions (ID 81, 85, 86, 88), maintenance of normal vision (ID 83, 87), reduction of tiredness and fatigue (ID 84), cell division (ID 195, 2881) and contribution to normal amino acid synthesis (ID 195, 2881) pursuant to Article 13(1) of Regulation (EC) No 1924/2006. EFSA Journal 2010;8(10):1760. [19 pp.]. doi:10.2903/j.efsa.2010.1760. Available online: www.efsa.europa.eu/efsajournal.htm

Contribution to normal psychological functions

The claimed effects are "mental performance (where mental performance stands for those aspects of brain and nerve functions which determine aspects like concentration, learning, memory and reasoning, as well as resistance to stress)", "the role of vitamins and minerals in mental performance (where mental performance stands for those aspects of brain and nerve functions which determine aspects like concentration, learning, memory and reasoning)", "cognitive function" and "cognitive health". The target population is assumed to be the general population. The Panel considers that contribution to normal psychological functions, which encompass cognitive and affective domains, is a beneficial physiological effect.

Severe folate deficiency in humans is characterised by macrocytic anaemia which produces symptoms of weakness, fatigue, difficulty in concentrating, irritability, headache, palpitations and shortness of breath.

On the basis of the data presented, the Panel concludes that a cause and effect relationship has been established between the dietary intake of folate and contribution to normal psychological functions.

Maintenance of normal vision (ID 83, 87)

The claimed effect is "eye health", "eye health, folic acid with vitamin E and C". The target population is assumed to be the general population. The Panel considers that maintenance of normal vision is a beneficial physiological effect.

In weighing the evidence, the Panel noted that the only human study presented was an epidemiological study which did not show any effect of long term intake of folate from foods or supplement use on the primary vision outcome measures.

The Panel concludes that a cause and effect relationship has not been established between the dietary intake of folate and the maintenance of normal vision.

Reduction of tiredness and fatigue (ID 84)

The claimed effect is "vitamin/mineral supplementation to reduce fatigue and tiredness in situations of inadequate micronutrient status". The target population is assumed to be the general population. The Panel considers that reduction of tiredness and fatigue is a beneficial physiological effect.

Insufficient intake of folate results in the deficiency condition of macrocytic anaemia. Symptoms of weakness and fatigue typically appear at an advanced stage of anaemia or at milder degrees of anaemia in some subjects.

On the basis of the data presented, the Panel concludes that a cause and effect relationship has been established between the dietary intake of folate and the reduction of tiredness and fatigue.

Cell division (ID 195, 2881)

The claimed effects are "la folate (vitamine B9) participe au métabolisme des protéines" and "cell division/multiplication: nucleic acids and amino acids synthesis (such as in the gastrointestinal tract)". The target population is assumed to be the general population. In the context of the proposed wording, the Panel assumes that the claimed effect refers to normal cell division.

A claim on folate and normal cell division has already been assessed with a favourable outcome.

Contribution to normal amino acid synthesis (ID 195, 2881)

The claimed effects are "la folate (vitamine B9) participe au métabolisme des protéines" and "cell division/multiplication: nucleic acids and amino acid synthesis (such as in the gastrointestinal tract)". The target population is assumed to be the general population. In the context of the proposed wording, the Panel assumes that the claimed effect refers to normal amino acid synthesis. The Panel considers that contribution to normal amino acid synthesis is a beneficial physiological effect.

Folate coenzymes are involved in amino acid interconversions, including the catabolism of histidine to glutamic acid, interconversion of serine to glycine and remethylation of homocysteine to methionine.

The Panel concludes that a cause and effect relationship has been established between the dietary intake of folate and contribution to normal amino acid synthesis.

Conditions and possible restrictions of use

The Panel considers that, in order to bear the claims, a food should be at least a source of folate as per Annex to Regulation (EC) No 1924/2006. Such amounts can be easily consumed as part of a balanced diet. The target population is the general population.

KEY WORDS

Folate, folic acid, vitamin B_9, psychological functions, vision, tiredness, fatigue, cell division, amino acids synthesis, health claims.

TABLE OF CONTENTS

BACKGROUND AS PROVIDED BY THE EUROPEAN COMMISSION

See Appendix A

TERMS OF REFERENCE AS PROVIDED BY THE EUROPEAN COMMISSION

See Appendix A

EFSA DISCLAIMER

See Appendix B

INFORMATION AS PROVIDED IN THE CONSOLIDATED LIST

The consolidated list of health claims pursuant to Article 13 of Regulation (EC) No 1924/2006[4] submitted by Member States contains main entry claims with corresponding conditions of use and literature for similar health claims. EFSA has screened all health claims contained in the original consolidated list of Article 13 health claims which was received by EFSA in 2008 using six criteria established by the NDA Panel to identify claims for which EFSA considered sufficient information had been provided for evaluation and those for which more information or clarification was needed before evaluation could be carried out[5]. The clarifications which were received by EFSA through the screening process have been included in the consolidated list. This additional information will serve as clarification to the originally provided information. The information provided in the consolidated list for the health claims which are the subject of this opinion is tabulated in Appendix C.

ASSESSMENT

1. Characterisation of the food/constituent

The food constituent that is the subject of the health claims is folate. Folate is measurable in foods by established methods.

Folate is the generic name for a number of derivatives of pteroylglutamic acid (PGA, folic acid). Folic acid is a synthetic folate compound used in food supplements and in food fortification because of its stability, and which becomes biologically active after reduction. Natural (dietary) folates are mostly reduced folates, i.e. derivatives of tetrahydrofolate (SCF, 2000).

Different forms of folate are authorised for addition to foods (Annex II of the Regulation (EC) No 1925/2006[6] and Annex II of Directive 2002/46/EC[7]). This evaluation applies to folate naturally present in foods and those forms authorised for addition to foods (Annex II of the Regulation (EC) No 1925/2006 and Annex II of Directive 2002/46/EC).

The Panel considers that the food constituent, folate, which is the subject of the health claims, is sufficiently characterised.

2. Relevance of the claimed effect to human health

2.1. Contribution to normal psychological functions (ID 81, 85, 86, 88)

The claimed effects are "mental performance (where mental performance stands for those aspects of brain and nerve functions which determine aspects like concentration, learning, memory and reasoning, as well as resistance to stress)", "the role of vitamins and minerals in mental performance (where mental performance stands for those aspects of brain and nerve functions which determine aspects like concentration, learning, memory and reasoning)", "cognitive function" and "cognitive health". The Panel assumes that the target population is the general population.

[4] 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. OJ L 404, 30.12.2006, p. 9–25.
[5] Briefing document for stakeholders on the evaluation of Article 13.1, 13.5 and 14 health claims: http://www.efsa.europa.eu/en/ndameetings/docs/nda100601-ax01.pdf
[6] Regulation (EC) No 1925/2006 of the European Parliament and of the Council of 20 December 2006 on the addition of vitamins and minerals and of certain other substances to foods. OJ L 404, 30.12.2006, p. 26–38.
[7] Directive 2002/46/EC of the European Parliament and of the Council of 10 June 2002 on the approximation of the laws of the Member States relating to food supplements. OJ L 183, 12.7.2002, p. 51–57.

The Panel considers that contribution to normal psychological functions, which encompass cognitive and affective domains, is a beneficial physiological effect.

2.2. Maintenance of normal vision (ID 83, 87)

The claimed effects are "eye health" and "eye health, folic acid with vitamin E and C". The Panel assumes that the target population is the general population.

The Panel considers that maintenance of normal vision is a beneficial physiological effect.

2.3. Reduction of tiredness and fatigue (ID 84)

The claimed effect is "vitamin/mineral supplementation to reduce fatigue and tiredness in situations of inadequate micronutrient status". The Panel assumes that the target population is the general population.

The Panel considers that reduction of tiredness and fatigue is a beneficial physiological effect.

2.4. Cell division (ID 195, 2881)

The claimed effects are "la folate (vitamin B9) participe au métabolisme des protéines" and "cell division/multiplication: nucleic acids and amino acids synthesis (such as in the gastrointestinal tract)". The Panel assumes that the target population is the general population.

In the context of the proposed wording, the Panel assumes that the claimed effect refers to normal cell division.

A claim on folate and normal cell division has already been assessed with a favourable outcome (EFSA Panel on Dietetic Products Nutrition and Allergies (NDA), 2009).

2.5. Contribution to normal amino acid synthesis (ID 195, 2881)

The claimed effect are "la folate (vitamine B9) participe au métabolisme des protéines" and "cell division/multiplication: nucleic acids and amino acids synthesis (such as in the gastrointestinal tract)". The Panel assumes that the target population is the general population.

In the context of the proposed wording, the Panel assumes that the claimed effect refers to normal amino acid synthesis.

The Panel considers that contribution to normal amino acid synthesis is a beneficial physiological effect.

3. Scientific substantiation of the claimed effect

Folates play an important role in the transfer of C1-groups (i.e. methyl-, methylene- and formyl-groups), maintaining the methylation balance (SCF, 2000). Folate coenzymes are involved in numerous reactions that involve DNA synthesis, purine synthesis, generation of formate into the formate pool and amino acid interconversion (IoM, 1998).

3.1. Contribution to normal psychological functions (ID 81, 85, 86, 88)

Severe folate deficiency in humans is characterised by macrocytic anaemia which produces symptoms of weakness, fatigue, difficulty in concentrating, irritability, headache, palpitations and shortness of breath (IoM, 1998).

The Panel concludes that a cause and effect relationship has been established between the dietary intake of folate and contribution to normal psychological functions.

3.2. Maintenance of normal vision (ID 83, 87)

Thirteen references were provided for the substantiation of the claimed effect, including four authoritative body reports, two reviews, one meta-analysis, five human studies and one consensus report.

One reference provided regulatory provisions and most of the references addressed endpoints unrelated to the claimed effect, including pregnancy outcomes, prevention of neural tube defects, human reproduction and antioxidant activity. The Panel considers that no conclusions can be drawn from these references for the scientific substantiation of the claimed effect.

A meta-analysis of case-control studies in patients with retinal vascular occlusive disease (Cahill et al., 2003), a study by Kamburoglu et al. (2006) with patients diagnosed with age-related macular degeneration and a longitudinal study in Pima Indians with Type 2 diabetes (Looker et al., 2003) were not considered to be pertinent to the claimed effect because the Panel considers that the evidence provided does not establish that patients with retinal vascular occlusive disease, patients with age-related macular degeneration or individuals with Type 2 diabetes are representative of the general population with regard to normal vision.

The study of Taylor et al. (2002) evaluated the odds for early age-related cortical and posterior subcapsular lens opacities and long term intake of vitamins and carotenoids in 492 non-diabetic women aged 53–73 years and found that no nutrient intake measure was related to the prevalence of opacities in the total sample. Sub-group analyses, however, indicated that there was a significant correlation between folate intake and posterior subcapsular lens opacities in a subgroup of never-smokers (P=0.02); the Panel notes that the association with folate intake might be explained by the high correlation (r=0.42) between folate and carotenoid intakes in their data-set and that diets high in folate are also generally high in carotenoids.

In weighing the evidence, the Panel noted that the only human study presented was an epidemiological study which did not show any effect of long term intake of folate from foods or supplement use on the primary vision outcome measures.

The Panel concludes that a cause and effect relationship has not been established between the dietary intake of folate and the maintenance of normal vision.

3.3. Reduction of tiredness and fatigue (ID 84)

Insufficient intake of folate results in the deficiency condition of macrocytic anaemia. Symptoms of weakness and fatigue typically appear at an advanced stage of anaemia or at milder degrees of anaemia in some subjects (IoM, 1998).

The Panel concludes that a cause and effect relationship has been established between the dietary intake of folate and the reduction of tiredness and fatigue.

3.4. Contribution to normal amino acid synthesis (ID 195, 2881)

Folate coenzymes are involved in amino acid interconversions, including the catabolism of histidine to glutamic acid, interconversion of serine to glycine and remethylation of homocysteine to methionine (IoM, 1998; FAO/WHO, 2002; Carmel, 2006). Folate-mediated transfer of single-carbon units from serine provides a major source of substrate in single-carbon metabolism. The conversion of homocysteine to methionine serves as a major source of methionine for the synthesis of S-adenosyl-methionine, which participates as the methyl donor in many biological methylation reactions of proteins, nucleoproteins, histones, neurotransmitters and phospholipids (IoM, 1998; Carmel, 2006).

The Panel concludes that a cause and effect relationship has been established between the dietary intake of folate and contribution to normal amino acids synthesis.

4. Panel's comments on the proposed wording

4.1. Contribution to normal psychological functions (ID 81, 85, 86, 88)

The Panel considers that the following wording reflects the scientific evidence: "Folate contributes to normal psychological functions".

4.2. Reduction of tiredness and fatigue (ID 84)

The Panel considers that the following wording reflects the scientific evidence: "Folate can contribute to the reduction of tiredness and fatigue".

4.3. Contribution to normal amino acid synthesis (ID 195, 2881)

The Panel considers that the following wording reflects the scientific evidence: "Folate contributes to normal amino acid synthesis".

5. Conditions and possible restrictions of use

The Panel considers that in order to bear the claims a food should be at least a source of folate as per Annex to Regulation (EC) No 1924/2006. Such amounts can be easily consumed as part of a balanced diet. The target population is the general population. Tolerable Upper Intake Levels (ULs) have been established for folic acid for children and adults (SCF, 2000).

CONCLUSIONS

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

- The Panel considers that the food constituent, folate, that is the subject of the health claim is sufficiently characterised.

Contribution to normal psychological functions (ID 81, 85, 86, 88)

- The claimed effects are "mental performance (where mental performance stands for those aspects of brain and nerve functions which determine aspects like concentration, learning, memory and reasoning, as well as resistance to stress)", "the role of vitamins and minerals in mental performance (where mental performance stands for those aspects of brain and nerve functions which determine aspects like concentration, learning, memory and reasoning)", "cognitive function" and "cognitive health". The target population is assumed to be the

general population. Contribution to normal psychological functions, which encompass cognitive and affective domains, is a beneficial physiological effect.

- A cause and effect relationship has been established between the dietary intake of folate and contribution to normal psychological functions.
- The following wording reflects the scientific evidence: "Folate contributes to normal psychological functions".

Maintenance of normal vision (ID 83, 87)

- The claimed effect is "eye health", "eye health, folic acid with vitamin E and C". The target population is assumed to be the general population. Maintenance of normal vision is a beneficial physiological effect.
- A cause and effect relationship has not been established between the dietary intake of folate and the maintenance of normal vision.

Reduction of tiredness and fatigue (ID 84)

- The claimed effect is "vitamin/mineral supplementation to reduce fatigue and tiredness in situations of inadequate micronutrient status". The target population is assumed to be the general population. Reduction of tiredness and fatigue is a beneficial physiological effect.
- A cause and effect relationship has been established between the dietary intake of folate and the reduction of tiredness and fatigue.
- The following wording reflects the scientific evidence: "Folate can contribute to the reduction of tiredness and fatigue".

Cell division (ID 195, 2881)

- The claimed effects are "la folate (vitamine B9) participe au métabolisme des protéines" and "cell division/multiplication: nucleic acids and amino acids synthesis (such as in the gastrointestinal tract)". The target population is assumed to be the general population.
- A claim on folate and normal cell division has already been assessed with a favourable outcome (EFSA Panel on Dietetic Products, Nutrition and Allergies (NDA), 2009).

Contribution to normal amino acid synthesis (ID 195, 2881)

- The claimed effects are "la folate (vitamin B9) participe au métabolisme des protéines" and "cell division/multiplication: nucleic acids and amino acid synthesis (such as in the gastrointestinal tract)". The target population is assumed to be the general population. Contribution to normal amino acids synthesis is a beneficial physiological effect.
- A cause and effect relationship has been established between the dietary intake of folate and contribution to normal amino acids synthesis.
- The following wording reflects the scientific evidence: "Folate contributes to normal amino acid synthesis".

Conditions and possible restrictions of use

- In order to bear the claims a food should be at least a source of folate as per Annex to Regulation (EC) No 1924/2006. Such amounts can be easily consumed as part of a balanced diet. The target population is the general population.

DOCUMENTATION PROVIDED TO EFSA

Health claims pursuant to Article 13 of Regulation (EC) No 1924/2006 (No: EFSA-Q-2008-868, EFSA-Q-2008-870, EFSA-Q-2008-871, EFSA-Q-2008-872, EFSA-Q-2008-873, EFSA-Q-2008-874, EFSA-Q-2008-875, EFSA-Q-2008-982, EFSA-Q-2008-3614). The scientific substantiation is based on the information provided by the Members States in the consolidated list of Article 13 health claims and references that EFSA has received from Member States or directly from stakeholders.

The full list of supporting references as provided to EFSA is available on: http://www.efsa.europa.eu/panels/nda/claims/article13.htm.

REFERENCES

Cahill MT, Stinnett SS and Fekrat S, 2003. Meta-analysis of plasma homocysteine, serum folate, serum vitamin B(12), and thermolabile MTHFR genotype as risk factors for retinal vascular occlusive disease. American Journal of Ophthalmology, 136, 1136-1150.

Carmel R, 2006. Folic acid In: Modern Nutrition in Health and Disease. Eds Shils M, Shike M, Ross C, Caballero B, Cousins RLippincott Williams & Wilkins, Baltimore, Philadephia. 470-481.

EFSA Panel on Dietetic Products, Nutrition and Allergies (NDA), 2009. Scientific Opinion on the substantiation of health claims related to folate and blood formation (ID 79), homocysteine metabolism (ID 80), energy-yielding metabolism (ID 90), function of the immune system (ID 91), function of blood vessels (ID 94, 175, 192), cell division (ID 193), and maternal tissue growth during pregnancy (ID 2882) pursuant to Article 13(1) of Regulation (EC) No 1924/2006 on request from the European Commission. EFSA Journal, 7(9):1213, 22 pp.

WHO/FAO (World Health Organization/Food and Agriculture Organization), 2002. Human Vitamin and Mineral Requirements - FAO/WHO expert consultation on human vitamin and mineral requirements.

IoM (Institute of Medicine), 1998. Dietary Reference Intakes for thiamin, riboflavin, niacin, vitamin B6, folate, vitamin B12, pantothenic acid, biotin and choline. National Academy Press, Washington, D.C.

Kamburoglu G, Gumus K, Kadayifcilar S, and Eldem B, 2006. Plasma homocysteine, vitamin B12 and folate levels in age-related macular degeneration. Graefe's Archive of Clinical and Experimental Ophthalmology, 244, 565-569.

Looker HC, Fagot-Campagna A, Gunter EW, Pfeiffer CM, Narayan KM, Knowler WC and Hanson RL, 2003. Homocysteine as a risk factor for nephropathy and retinopathy in Type 2 diabetes. Diabetologia, 46, 766-772.

SCF (Scientific Committee on Food), 2000. Opinion of the Scientific Committee on Food on the Tolerable Upper Intake Level of Folate.

Taylor A, Jacques PF, Chylack LT, Jr., Hankinson SE, Khu PM, Rogers G, Friend J, Tung W, Wolfe JK, Padhye N, and Willett WC, 2002. Long-term intake of vitamins and carotenoids and odds of early age-related cortical and posterior subcapsular lens opacities. American Journal of Clinical Nutrition, 75, 540-549.

APPENDICES

APPENDIX A

BACKGROUND AND TERMS OF REFERENCE AS PROVIDED BY THE EUROPEAN COMMISSION

The Regulation 1924/2006 on nutrition and health claims made on foods[8] (hereinafter "the Regulation") entered into force on 19th January 2007.

Article 13 of the Regulation foresees that the Commission shall adopt a Community list of permitted health claims other than those referring to the reduction of disease risk and to children's development and health. This Community list shall be adopted through the Regulatory Committee procedure and following consultation of the European Food Safety Authority (EFSA).

Health claims are defined as "any claim that states, suggests or implies that a relationship exists between a food category, a food or one of its constituents and health".

In accordance with Article 13 (1) health claims other than those referring to the reduction of disease risk and to children's development and health are health claims describing or referring to:

a) the role of a nutrient or other substance in growth, development and the functions of the body; or

b) psychological and behavioural functions; or

c) without prejudice to Directive 96/8/EC, slimming or weight-control or a reduction in the sense of hunger or an increase in the sense of satiety or to the reduction of the available energy from the diet.

To be included in the Community list of permitted health claims, the claims shall be:

(i) based on generally accepted scientific evidence; and

(ii) well understood by the average consumer.

Member States provided the Commission with lists of claims as referred to in Article 13 (1) by 31 January 2008 accompanied by the conditions applying to them and by references to the relevant scientific justification. These lists have been consolidated into the list which forms the basis for the EFSA consultation in accordance with Article 13 (3).

ISSUES THAT NEED TO BE CONSIDERED

IMPORTANCE AND PERTINENCE OF THE FOOD[9]

Foods are commonly involved in many different functions[10] of the body, and for one single food many health claims may therefore be scientifically true. Therefore, the relative importance of food e.g. nutrients in relation to other nutrients for the expressed beneficial effect should be considered: for functions affected by a large number of dietary factors it should be considered whether a reference to a single food is scientifically pertinent.

8 OJ L12, 18/01/2007
9 The term 'food' when used in this Terms of Reference refers to a food constituent, the food or the food category.
10 The term 'function' when used in this Terms of Reference refers to health claims in Article 13(1)(a), (b) and (c).

It should also be considered if the information on the characteristics of the food contains aspects pertinent to the beneficial effect.

SUBSTANTIATION OF CLAIMS BY GENERALLY ACCEPTABLE SCIENTIFIC EVIDENCE

Scientific substantiation is the main aspect to be taken into account to authorise health claims. Claims should be scientifically substantiated by taking into account the totality of the available scientific data, and by weighing the evidence, and shall demonstrate the extent to which:

(a) the claimed effect of the food is beneficial for human health,

(b) a cause and effect relationship is established between consumption of the food and the claimed effect in humans (such as: the strength, consistency, specificity, dose-response, and biological plausibility of the relationship),

(c) the quantity of the food and pattern of consumption required to obtain the claimed effect could reasonably be achieved as part of a balanced diet,

(d) the specific study group(s) in which the evidence was obtained is representative of the target population for which the claim is intended.

EFSA has mentioned in its scientific and technical guidance for the preparation and presentation of the application for authorisation of health claims consistent criteria for the potential sources of scientific data. Such sources may not be available for all health claims. Nevertheless it will be relevant and important that EFSA comments on the availability and quality of such data in order to allow the regulator to judge and make a risk management decision about the acceptability of health claims included in the submitted list.

The scientific evidence about the role of a food on a nutritional or physiological function is not enough to justify the claim. The beneficial effect of the dietary intake has also to be demonstrated. Moreover, the beneficial effect should be significant i.e. satisfactorily demonstrate to beneficially affect identified functions in the body in a way which is relevant to health. Although an appreciation of the beneficial effect in relation to the nutritional status of the European population may be of interest, the presence or absence of the actual need for a nutrient or other substance with nutritional or physiological effect for that population should not, however, condition such considerations.

Different types of effects can be claimed. Claims referring to the maintenance of a function may be distinct from claims referring to the improvement of a function. EFSA may wish to comment whether such different claims comply with the criteria laid down in the Regulation.

WORDING OF HEALTH CLAIMS

Scientific substantiation of health claims is the main aspect on which EFSA's opinion is requested. However, the wording of health claims should also be commented by EFSA in its opinion.

There is potentially a plethora of expressions that may be used to convey the relationship between the food and the function. This may be due to commercial practices, consumer perception and linguistic or cultural differences across the EU. Nevertheless, the wording used to make health claims should be truthful, clear, reliable and useful to the consumer in choosing a healthy diet.

In addition to fulfilling the general principles and conditions of the Regulation laid down in Article 3 and 5, Article 13(1)(a) stipulates that health claims shall describe or refer to "the role of a nutrient or other substance in growth, development and the functions of the body". Therefore, the requirement to

describe or refer to the 'role' of a nutrient or substance in growth, development and the functions of the body should be carefully considered.

The specificity of the wording is very important. Health claims such as "Substance X supports the function of the joints" may not sufficiently do so, whereas a claim such as "Substance X helps maintain the flexibility of the joints" would. In the first example of a claim it is unclear which of the various functions of the joints is described or referred to contrary to the latter example which specifies this by using the word "flexibility".

The clarity of the wording is very important. The guiding principle should be that the description or reference to the role of the nutrient or other substance shall be clear and unambiguous and therefore be specified to the extent possible i.e. descriptive words/ terms which can have multiple meanings should be avoided. To this end, wordings like "strengthens your natural defences" or "contain antioxidants" should be considered as well as "may" or "might" as opposed to words like "contributes", "aids" or "helps".

In addition, for functions affected by a large number of dietary factors it should be considered whether wordings such as "indispensable", "necessary", "essential" and "important" reflects the strength of the scientific evidence.

Similar alternative wordings as mentioned above are used for claims relating to different relationships between the various foods and health. It is not the intention of the regulator to adopt a detailed and rigid list of claims where all possible wordings for the different claims are approved. Therefore, it is not required that EFSA comments on each individual wording for each claim unless the wording is strictly pertinent to a specific claim. It would be appreciated though that EFSA may consider and comment generally on such elements relating to wording to ensure the compliance with the criteria laid down in the Regulation.

In doing so the explanation provided for in recital 16 of the Regulation on the notion of the average consumer should be recalled. In addition, such assessment should take into account the particular perspective and/or knowledge in the target group of the claim, if such is indicated or implied.

TERMS OF REFERENCE

HEALTH CLAIMS OTHER THAN THOSE REFERRING TO THE REDUCTION OF DISEASE RISK AND TO CHILDREN'S DEVELOPMENT AND HEALTH

EFSA should in particular consider, and provide advice on the following aspects:

- Whether adequate information is provided on the characteristics of the food pertinent to the beneficial effect.
- Whether the beneficial effect of the food on the function is substantiated by generally accepted scientific evidence by taking into account the totality of the available scientific data, and by weighing the evidence. In this context EFSA is invited to comment on the nature and quality of the totality of the evidence provided according to consistent criteria.
- The specific importance of the food for the claimed effect. For functions affected by a large number of dietary factors whether a reference to a single food is scientifically pertinent.

In addition, EFSA should consider the claimed effect on the function, and provide advice on the extent to which:

- the claimed effect of the food in the identified function is beneficial.
- a cause and effect relationship has been established between consumption of the food and the claimed effect in humans and whether the magnitude of the effect is related to the quantity

consumed.

- where appropriate, the effect on the function is significant in relation to the quantity of the food proposed to be consumed and if this quantity could reasonably be consumed as part of a balanced diet.
- the specific study group(s) in which the evidence was obtained is representative of the target population for which the claim is intended.
- the wordings used to express the claimed effect reflect the scientific evidence and complies with the criteria laid down in the Regulation.

When considering these elements EFSA should also provide advice, when appropriate:

- on the appropriate application of Article 10 (2) (c) and (d) in the Regulation, which provides for additional labelling requirements addressed to persons who should avoid using the food; and/or warnings for products that are likely to present a health risk if consumed to excess.

APPENDIX B

EFSA DISCLAIMER

The present opinion does not constitute, and cannot be construed as, an authorisation to the marketing of the food/food constituent, a positive assessment of its safety, nor a decision on whether the food/food constituent is, or is not, classified as foodstuffs. 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 wordings of the claims and the conditions of use as proposed in the Consolidated List may be subject to changes, pending the outcome of the authorisation procedure foreseen in Article 13(3) of Regulation (EC) No 1924/2006.

APPENDIX C

Table 1. Main entry health claims related to folate, including conditions of use from similar claims, as proposed in the Consolidated List.

ID	Food or Food constituent	Health Relationship	Proposed wording
81	Folate	Mental performance (where mental performance stands for those aspects of brain and nerve functions which determine aspects like concentration, learning, memory and reasoning, as well as resistance to stress)	Folic acid is needed/important for mental function and performance
	Conditions of use - Minimum15% RDA (30 µg) dziennie		
ID	**Food or Food constituent**	**Health Relationship**	**Proposed wording**
83	Folic acid	Eye health	Folic acid protects the eye Folic acid important for the eye
	Conditions of use - Must meet minimum requirements for use of the claim "source of [name of vitamin/s] and/or [name of mineral/s]" as per Annex to Regulation 1924/2006. - Homocysteine is a waste product formed by degradation of the amino acid methionine. - Homocysteine damages blood vessels, forms oxygen radicals and increases synthesis of inflammation mediators		
ID	**Food or Food constituent**	**Health Relationship**	**Proposed wording**
84	Folic Acid	Vitamin/mineral supplementation to reduce fatigue and tiredness in situations of inadequate micronutrient status	Supplementation with B-vitamins, iron, magnesium as well as vitamin C can reduce fatigue and tiredness in situations of inadequate micro-nutrient status
	Conditions of use - Must meet minimum requirements for use of the claim "source of [name of vitamin/s] and/or [name of mineral/s]," as per Annex to Regulation 1924/2006.		
	No clarifications provided by Member States		
ID	**Food or Food constituent**	**Health Relationship**	**Proposed wording**
85	Folic Acid	The role of vitamins and minerals in mental performance (where mental performance stands for those aspects of brain and nerve functions which determine aspects like concentration, learning, memory and reasoning)	Water-soluble vitamins, calcium, magnesium and zinc are essential for mental function and performance

	Conditions of use - Only for products with at least 100 % RDA of vitamins		
ID	**Food or Food constituent**	**Health Relationship**	**Proposed wording**
86	Folate	Cognitive function	Folate helps maintain cognitive performance
	Conditions of use - Must meet minimum requirements for use of the claim "source of [name of vitamin/s] and/or [name of mineral/s]" as per Annex to Regulation 1924/2006. - Food supplement with 300 µg of folic acid in the daily dose - ≥ 400 µg/d		
ID	**Food or Food constituent**	**Health Relationship**	**Proposed wording**
87	Folic acid	Eye health, folic acid with vitamin E and C	Positive affect for protection of the lens
	Conditions of use - Must meet minimum requirements for use of the claim "source of [name of vitamin/s] and/or [name of mineral/s]" as per Annex to Regulation 1924/2006..		
ID	**Food or Food constituent**	**Health Relationship**	**Proposed wording**
88	Folic acid	Cognitive Health	May help maintain a healthy mind May help maintain a cognitive performance
	Conditions of use - Inclusion of Folic Acid in a healthy diet, - Must meet minimum requirements for use of the claim "source of [name of vitamin/s] and/or [name of mineral/s], source of protein etc (delete as appropriate)" as per Annex to Regulation 1924/2006. - Food supplement with 75mg of folic acid in the daily dose		
ID	**Food or Food constituent**	**Health Relationship**	**Proposed wording**
195	Vitamin B9 Complément alimentaire	la Folate (Vitamine B9) participe au métabolisme des protéines	Contribue à la multiplication cellulaire et à la synthèse des acides aminés.
	Conditions of use - 1 comprimé par jour de façon continue à partir de 45 ans.		
	No clarifications provided by Member States		
ID	**Food or Food constituent**	**Health Relationship**	**Proposed wording**
2881	Folate/Folic acid (Vitamin B9)	Cell division/multiplication: Nucleic acids and amino acids synthesis (such as in the gastrointestinal tract)	Folate/ Folic acid (Vitamin B9) contributes to cell division.
	Conditions of use - DLC = 5 à 10 jours. Adultes & enfants.		

	- MUST AT LEAST BE A SOURCE OF VITAMIN/S AS PER ANNEX TO REGULATION 1924/2020 - Must meet minimum requirements for use of the claim source of Vitamin B9 (Folate/Folic acid) as per Annex to Regulation 1924/2006 Applicable to both children and adults
	No clarifications provided by Member States