Position papers

Olive Fruit Dry Extract Standardized in Hydroxytyrosol - Discussion Paper

Committee Paper for Discussion - ACNFP/165/04

Advisory Committee for Novel Foods and Processes

Application for authorisation as a Novel Food for Olive Fruit Dry Extract standardized in Hydroxytyrosol

Application number RP1074

Issue

The Committee reviewed this application at a number of meetings. Following discussion, a draft Committee Advice Document (CAD) for this novel food has been developed. Committee input is sought on the remaining outstanding questions of interpretation and handling in relation to the toxicological data so that the CAD can be updated and finalised with an appropriate conclusion.

Background

1. In April 2021, the FSA received the submission for olive fruit dry extract standardized in hydroxytyrosol, a food supplement ingredient. The novel food ingredient is an extract of *Olea europea L*. fruit, standardized to either 10% or 20% hydroxytyrosol. The applicant intends to use the novel food as an ingredient in food supplements for adults 18 years of age or over, excluding pregnant and breastfeeding women.

2. The focus of the data presented has been primarily on hydroxytyrosol on the basis that pure hydroxytyrosol is authorised in dietary supplements in France and Italy, and hydroxytyrosol obtained by chemical synthesis has been authorised in

fish and vegetable oils in the EU and UK.

3. There has been discussion of this application at a number of meetings including an in-depth discussion of the outstanding areas for consideration at the November meeting. Based on the advice of the Committee, a request for information from the applicant was made, to answer data gaps in relation to the composition / specification and sub-chronic toxicology (Annex A). The applicant's response is provided in Annex B. A summary of their response and the remaining questions for Committee input are detailed below.

4. The Secretariat has developed a draft Committee Advice Document for this novel food (Annex C). We note that the drafting needs further refinement to ensure it accurately captures the complex dataset being reviewed. However, we hope that this can occur in parallel to addressing the outstanding queries and reaching an appropriate conclusion on the safety of the novel food.

5. The outstanding areas where Committee input is needed are detailed below.

Composition and specification

6. In order to appropriately review the composition of the novel food, queries were raised on the level of polyphenols to understand the contribution that these and the polyphenol hydroxytyrosol plays to the wider content of the novel food. The applicant response indicates based on the proposed use level of the novel food the polyphenol content would be 29.4mg/day for the 10% extract and 28.8mg/day for the 20% extract. Olive fruits on average contain 0.4% of polyphenols, with consumption of the novel food corresponding to 30mg/day of total polyphenols (under proposed use) which equates to approximately 1-2 olives.

7. The level of hydroxytyrosol was also put in context by comparing the levels in the novel ingredient to the equivalent amount of table olives. On the basis that table olives contain on average 600mg/kg of free hydroxytyrosol, the applicant suggests consumption of 20mg of hydroxytyrosol, as proposed for the 10% extract, equates to 33.3g of table olives which corresponds to 6-7 olives based on weight of an olive. This data suggests that the hydroxytyrosol is the main polyphenol present and that based on the data supplied previously the polyphenol content is up to 30% of the novel food's composition.

- Members are asked if this additional data completes the characterisation of the novel food.

Genotoxicity

8. The applicant has provided genotoxicity studies on the novel food from which the applicant concludes the novel food is not genotoxic. In addition, data from literature review with a range of test materials including hydroxytyrosol and other olive extracts of varying compositions has also been provided. Members are asked:

- Given the data on the novel food does not indicate that it is mutagenic, clastogenic or aneugenic using standard testing methods in line with the EFSA guidance, to what extent should we consider the wider literature data provided on a range of olive extracts in the assessment?
- Is the Committee content with the interpretation suggested in Kirland et al (2015), that cytotoxicity seen in some of the genotoxicity testing, in particular invitro micronucleus tests, is a result of hydrogen peroxide production as a result of interactions between the test substance and the testing media?

Sub-chronic Toxicology

9. Following the discussions at the last meeting the applicant has summarised the data from the toxicological studies in a table. This is provided in their response in Annex B and has been reproduced in the CAD (Annex C) in Table 6. The literature cited by the applicant reported NOAELs ranging from 48-150mg/kg/bw/day of hydroxytyrosol, reflecting that a range of test materials have been used in the studies evaluated. It is unclear which if any of the test materials used in the studies identified from literature reflect the composition of the novel food. To reach a proportionate conclusion on this novel food advice is sought on:

- Whether there is sufficient evidence relevant to the composition of the novel food to reach a conclusion? If so which of the data presented should be considered the point of departure for the evaluation?
- If further data is needed, what information should be sought?
- The conclusion from the assessment that the Committee considers appropriate based on the data provided.

Committee Action Required

- The Committee is asked to advice on the outstanding queries in relation to genotoxicology and subchronic toxicology.

- The Committee is asked to comment on whether a conclusion can be reached that could be reflected in an updated draft of the Committee Advice Document for this novel food.

ACNFP Secretariat

April 2024

Annexes

Annex A – Request for information sent to the applicant

Annex B – Response to request for further information

Annex C - Draft Committee Advice Document