Application 1253 – Bovine lactoferrin in infant formula products

1st call for submissions (CFS)

Summary

NSW appreciates the opportunity to comment on Application 1253 – Bovine lactoferrin in infant formula products (IFP).

NSW concurs FSANZ that lactoferrin, a fraction of milk proteins, when added to IFP above its background level in existing ingredients (e.g. whole milk, whey proteins) is classified as a nutritive substance. This approach aligns with amendments made to the 'nutritive substance' definition in the Australia New Zealand Food Standards Code (the Code) through Proposal 1025, in that a substance that '*has been concentrated, refined or synthesised, to achieve a nutritional purpose when added to a food*'.

However whilst making the intentional addition of 'lactoferrin' in IFP clear, this application raises ambiguities concerning the regulatory identity of lactoferrin in general foods as well as other special purpose food standards in Part 2.9 of the Code.

NSW appreciates that addressing these concerns are likely to be outside the scope of Application 1253 but will complicate industry product development and research agendas as lactoferrin role when added to other foods in now unclear. This is further complicated by the entry of lactoferrin in the register of the Advisory Committee on Novel Foods (ACNF) where lactoferrin is listed as 'traditional and not-novel food[1]' for use in dairy products at 10-100mg/mL or as part of 'milk basic protein' (where it was not considered a novel food but possibly a nutritive substance). There is an un-intended but significant consequential effect on use of lactoferrin in other foods occurring through submission of this application.

Lactoferrin as a substance 'used as a nutritive substance'

NSW agrees with FSANZ view to regard lactoferrin as 'used as a nutritive substance' for IFP in the Code for the first time, as provided by 1.3.1.2 in the CFS document ('*bLf would be a substance used as a nutritive substance for the purposes of the Code because its proposed addition to IFP is intended to achieve specific nutritional purposes*.').

However this determination must also be balanced with its use in other standards especially special purpose food standards. The regulatory effect of this application is clarity for lactoferrin permission and purpose in foods for persons 0-12 months. The period of time after this is now ambiguous. This is further complicated by ACNF listing

[1] https://www.foodstandards.gov.au/industry/novel/novelrecs/Documents/Record%20of%20views%20updated%20August%202022.pdf

for lactoferrin use in dairy products as 'traditional and not-novel' (i.e. a general permission). How is this now interpreted for the broader food supply?.

The then Novel Food Reference Group (NFRG) and the Advisory Committee on Novel Foods (ACNF) provided the below views on lactoferrin that are publicly available in 'Novel food - Record of views formed in response to inquiries'[2] as below:

- NFRG viewed 'Lactoferrin (Bovine) for use in dairy products at 10-100 mg/100mL or 100 g' as 'traditional food' and 'not novel food'
- ACNF recommended 'milk basic protein' that contains lactoferrin as 'non-traditional food' and 'not novel food', noting that 'although the product is not likely to be considered a novel food, it is perhaps likely that the product will meet the definition of nutritive substance in Standard 1.1.1 of the Code'.

Specific concern is raised on the second ACNF view as it phrased as 'perhaps likely' a nutritive substance. Whilst it is understood that ACNF views serve as a 'general guide' the wording concerning the second ACNF finding is particularly ambiguous and raises doubt whether there is a general permission to add lactoferrin to food as provided by the first ACNF finding, or a qualified permission, or that A 1253 now sets a precedent that all intentional lactoferrin addition to food should now be treated as 'used a nutritive substance'. Clarity on this would be appreciated by FSANZ in the approval report.

If bovine lactoferrin is to be regarded as a substance 'used as a nutritive substance' in IFP by A 1253, does addition of lactoferrin to food in all contexts other than IFP now constitute an offence? (subsection 1.1.1-10(6))(b). NSW acknowledges that there are some bovine lactoferrin-fortified foods on the market. Example is milk powder with added bovine lactoferrin at the level of 100 mg per 100g (the precise limit of the first ACNF view), does this default to 'used as a nutritive substance'? If no, is lactoferrin addition in this context considered a permitted food and subject to broad permission under (Standard 1.1.1-10 (2)) or is it now captured by compositional requirements (Standard 1.1.1-10(4)) given that Application 1253 includes an identity and purity specification for bovine lactoferrin?.

NSW would appreciate clarity from FSANZ on these matters in the approval report.

NSW understands that it is possible that bovine lactoferrin can be 'used as a nutritive substance' in IFP and used for other purposes in other foods, noting that subsection 1.1.1-10(6) states a substance can be used in food for different purposes.

Nutrition assessment

NSW would appreciate more clarity on the impact of specifying the iron saturation limit for bovine lactoferrin in the proposed amendment to Schedule 3 in the approval report. SD1 (pg 30) to the CFS provides an extensive range of iron saturation in bovine lactoferrin preparations reviewed by FSANZ. Does the specificity of the proposed bovine lactoferrin proposed for Schedule 3 impact on other lactoferrins that may be added to IFP at the conclusion of the exclusivity period? NSW notes that Schedule 3 does not have a 15-month sunset provision akin to that proposed for Schedule 29-5A.

[2] https://www.foodstandards.gov.au/industry/novel/novelrecs/Pages/default.aspx

Beneficial health effects assessment

As a beneficial role in the growth and development of infants, the SD1 lists the specific health effects of bovine lactoferrin, namely:

- antibacterial and/or bacteriostatic effects
- an anti-viral effect
- an immunomodulatory effect
- reducing the severity of infection

Whilst noting these effects as long-standing benefits associated with lactoferrin, the language descriptors applied raise food/therapeutic goods tensions.

NSW notes that lactoferrin sits on the food-medicine interface, with recognised food/therapeutic uses and permissions in both regulatory systems, for example,

- While lactoferrin is not listed in permitted health claims in Schedule 4, there are three notified food-health relationships that relate to lactoferrin[3].
  - 'Support for a healthy immune system'
  - 'contributes to/supports optimal immune function and provides enhanced protection from infections'
  - 'Lactoferrin contributes to healthy immune system function'
- Bovine lactoferrin is listed as a permissible ingredient in the Therapeutic Goods (Permissible Ingredients) Determination (No. 4) 2022. Lactoferrin powders are sold as listed medicines, some of which are for infant.
- Lactoferrin powders are sold for an ingredient for foods and therapeutic goods.

NSW notes that health claims are not permissible on IFP however are they permissible on foods other than IFP. Given the ambiguity concerning the 'nutritive substance' status of non-IFP use of lactoferrin expressed earlier in this submission can FSANZ give advice in the approval report on whether existing general level health claims may continue to be applied to food if there is doubt concerning whether the food is a 'nutritive substance' and requires an express permission in the Code?

Exclusivity

NSW questions the grounds on which exclusive permission can be granted for Application 1251 and would appreciate clarity from FSANZ on this point in the approval report. Bovine lactoferrin has been added to food sold in the Australia New Zealand market for many years. NSW understands exclusivity to apply to first to market foods in the Australia and New Zealand markets. Listing of bovine lactoferrin in the ACNF register as a 'non-traditional and not-novel food' is clear evidence this application does not present a 'first to market' situation.

NSW would further appreciate clarity from FSANZ as to the fate of the proposed bovine lactoferrin permission in the Code at the end of the exclusivity period, given the specificity of the identity and purity specification provided by the applicant. FSANZ review of bovine lactoferrin food used in food as part of this application reveals a number of uses with variant iron saturation levels (SD 1, pg 30 suggests levels vary from 8.7% to 90%). The proposed specification proposes a maximum limit of 15%. Can FSANZ please clarify in the approval report, whether the proposed permission (at the end of the exclusivity period) defaults to a general lactoferrin permission for IFP or as

[3] https://www.foodstandards.gov.au/industry/labelling/fhr/Pages/default.aspx (Accessed 25 October 2022)

a permission for IFP according to the specifications of the proposed identity and purity schedule only? If it is the latter NSW suggests this goes beyond the intent of the 15 month exclusivity period as Schedule 3 is having the operational effect of a provisional patent. NSW requests clarity from FSANZ on this point in the approval report.

Considering how exclusivity permission was developed through P305, NSW assumes that there has to be some 'novel' aspect in applications that seeks exclusivity permission. However NSW finds it difficult to identify a 'novel' aspect of this Application that would warrant exclusivity permission.

- Bovine lactoferrin is naturally present in food.
- Bovine lactoferrin has been viewed as 'traditional food' and/or 'not novel food' and used in foods without any restriction.
- A1120[4] sought permission to use an agarose ion exchange resin as a processing aid in the production of high purity lactoferrin from bovine milk and milk-related products. This application was gazetted into the Code in 2016 with no concerns expressed as to the use of lactoferrin in foods. There was no permission sought for bovine lactoferrin (nor identity and purity specification supplied). A 1120 did not seek to place any restriction on the use of lactoferrin in food, nor was any pre-market safety assessment conducted on bovine lactoferrin (hence it is not novel food).
- No evidence is provided to show that the specification of bovine lactoferrin as is proposed to be inserted as Schedule 3-46 is 'novel' and the best for IFP. Rather, pg 10 of SD1 states the equivalence of applicant's bovine lactoferrin to that produced by other companies that were used in previously-conducted studies.
- No clinical studies using the applicant's bovine lactoferrin were available, which means no research cost was involved in creating 'novel' data about bovine lactoferrin.

NSW queries FSANZ to identify the 'novel' aspect of Application 1251 that qualifies eligibility to use exclusivity in the approval report.

Furthermore, NSW raises concerns about enforceability in this exclusivity permission in relation to naturally-occurring bovine lactoferrin in foods including as an existing component of ingredients in IFP. As all bovine milk-based IFP naturally contain bovine lactoferrin, NSW requests FSANZ for clarification on how the applicant's bovine lactoferrin can be analytically distinguished from 'natural' lactoferrin concentration in foods (including standardisation of dairy products that occurs in standard manufacturing practices).

ENDS

The views expressed in this submission may or may not accord with those of other NSW Government agencies. The NSW Food Authority has a policy which encourages the full range of NSW agency views to be submitted during the standards development stages before final assessment. Other relevant NSW Government agencies are aware of and agree with this policy.

Dated as 10 November 2022

[4] https://www.foodstandards.gov.au/code/applications/Documents/A1120%20Agarose%20ion%20exchange%20resin%20as%20a%20PA%20AppR.pdf