This draft has not been adopted or endorsed by the European Commission. Any views expressed are the preliminary views of the Commission services and may not in any circumstances be regarded as stating an official position of the Commission. The information transmitted is intended only for the Member State or entity to which it is addressed for discussions and may contain confidential and/or privileged material.

COMMISSION IMPLEMENTING REGULATION (EU) …/...

of XXX

amending Implementing Regulation (EU) 2017/2470 as regards the specifications of the novel food 2´-Fucosyllactose (microbial source) to authorise its production by a derivative strain of *Escherichia coli* W (ATCC 9637), as regards the conditions of use of the novel food 2´-Fucosyllactose, and as regards the specifications of the novel food 2´-Fucosyllactose (microbial source) produced with a derivative strain of *Escherichia coli* BL21

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EU) 2015/2283 of the European Parliament and of the Council of 25 November 2015 on novel foods, amending Regulation (EU) No 1169/2011 of the European Parliament and of the Council and repealing Regulation (EC) No 258/97 of the European Parliament and of the Council and Commission Regulation (EC) No 1852/2001[1], and in particular Article 12 thereof,

Whereas:

(1) Regulation (EU) 2015/2283 provides that only novel foods authorised and included in the Union list may be placed on the market within the Union.

(2) Pursuant to Article 8 of Regulation (EU) 2015/2283, Commission Implementing Regulation (EU) 2017/2470[2] has established a Union list of authorised novel foods.

(3) Commission Implementing Decision (EU) 2016/376[3] authorised, in accordance with Regulation (EC) No 258/97 of the European Parliament and of the Council[4], the placing on the market of synthetic 2′-Fucosyllactose (‘2′-FL’) as a novel food ingredient.

(4) Commission Implementing Decision (EU) 2017/2201[5] authorised, in accordance with Regulation (EC) No 258/97, the placing on the market of 2′-FL (microbial source) produced with *Escherichia coli* strain BL21 as a novel food ingredient.

---

1 OJ L 327, 11.12.2015, p. 1.

2 Commission Implementing Regulation (EU) 2017/2470 of 20 December 2017 establishing the Union list of novel foods in accordance with Regulation (EU) 2015/2283 of the European Parliament and of the Council on novel foods (OJ L 351, 30.12.2017, p. 72).

3 Commission Implementing Decision (EU) 2016/376 of 11 March 2016 authorising the placing on the market of 2′-O-fucosyllactose as a novel food ingredient under Regulation (EC) No 258/97 of the European Parliament and of the Council (OJ L 70, 16.3.2016, p.27).

4 Regulation (EC) No 258/97 of the European Parliament and of the Council of 27 January 1997 concerning novel food and novel food ingredients (OJ L 43, 14.2.1997, p. 1).

5 Commission Implementing Decision (EU) 2017/2201 of 27 November 2017 authorising the placing on the market of 2′-fucosyllactose produced with Escherichia coli strain BL21 as a novel food ingredient under Regulation (EC) No 258/97 of the European Parliament and of the Council (OJ L 313, 29.11.2017, p. 5).

(5) On 23 June 2016, the company Glycom A/S, informed the Commission, pursuant to Article 5 of Regulation (EC) No 258/97, of its intention to place on the market 2′-FL (microbial source) produced by bacterial fermentation with *Escherichia coli* strain K-12. 2′-Fucosyllactose of microbial origin produced with *Escherichia coli* strain K-12 was included in the Union list of novel foods on the basis of that notification when the Union list was established.

(6) Commission Implementing Regulation (EU) 2023/859[6] authorised, in accordance with Regulation (EU) No 2015/2283, the production of 2′-FL (microbial source) by a derivative strain of *Corynebacterium glutamicum* ATCC 13032.

(7) On 23 March 2021, the company Kyowa Hakko Bio Co., Ltd ('the applicant') submitted an application to the Commission in accordance with Article 10(1) of Regulation (EU) 2015/2283 for a change in the specifications of 2′-FL (microbial source) to authorise its production by microbial fermentation using a genetically modified derivative strain of *Escherichia coli* strain W (ATCC 9637). In that application, the applicant originally also proposed a change in the conditions of use of 2′-FL to extend its uses in food supplements as defined in Directive 2002/46/EC of the European Parliament and of the Council[7], intended for infants. Subsequently, on 30 November 2023, the applicant withdrew the request for use in food supplements for infants from the application.

(8) On 23 March 2021, the applicant also made a request to the Commission for the protection of proprietary scientific studies and data, namely, liquid chromatography-mass spectrometry ('LC-MS/MS'), nuclear magnetic resonance ('NMR') and a high-performance liquid chromatography – charged aerosol detection ('HPLC-CAD') studies for the determination of the identity of 2′-FL[8]; a description of the genetically modified strain of *Escherichia coli* W (ATCC 9637)[9] including its genome sequence[10], and antimicrobial susceptibility studies[11]; a detailed description of the production process[12] including the raw materials and processing aids used[13]; methods of analysis[14], and compositional analyses data of the novel food[15]; stability studies with the novel food[16]; a Hazard Analysis Critical Point ('HACCP') safety management system[17]; solubility studies with the novel food[18]; a bacterial reverse mutation test with 2′-FL[19]; an *in vitro* mammalian cell micronucleus test with 2′-FL[20]; an *in vivo*

---

6 Commission Implementing Regulation (EU) 2023/859 of 25 April 2023 amending Implementing Regulation (EU) 2017/2470 as regards the specifications of the novel food 2′-Fucosyllactose (microbial source) to authorise its production by a derivative strain of *Corynebacterium glutamicum* ATCC 13032 (OJ L 111, 26.4.2023, p. 17).

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).

8 Kyowa Hakko Bio Co., Ltd, 2019, 2020, 2021, and 2022 (unpublished).

9 Kyowa Hakko Bio Co., Ltd, 2021, 2022, and 2023 (unpublished).

10 Kyowa Hakko Bio Co., Ltd, 2021, 2022, and 2023 (unpublished).

11 Kyowa Hakko Bio Co., Ltd, 2021, 2022, and 2023 (unpublished).

12 Kyowa Hakko Bio Co., Ltd, 2021, 2022, and 2023 (unpublished).

13 Kyowa Hakko Bio Co., Ltd, 2021, 2022, and 2023 (unpublished).

14 Kyowa Hakko Bio Co., Ltd, 2021, 2022, and 2023 (unpublished).

15 Kyowa Hakko Bio Co., Ltd, 2021, 2022, and 2023 (unpublished).

16 Kyowa Hakko Bio Co., Ltd, 2021, 2022, and 2023 (unpublished).

17 Kyowa Hakko Bio Co., Ltd, 2021 (unpublished).

18 Kyowa Hakko Bio Co., Ltd, 2021 and 2023 (unpublished)

19 Kyowa Hakko Bio Co., Ltd, 2020 (unpublished).

mammalian cell micronucleus test with 2′-FL[21]; a 90-day oral toxicity study in rats with 2′-FL[22]; and, a bioinformatics analysis study on the genome of the *Escherichia coli* W (ATCC 9637) to detect heterologous sequences that could encode possible allergens[23], submitted in support of the application.

(9) In accordance with Article 10(3) of Regulation (EU) 2015/2283, on 7 December 2021, the Commission requested the European Food Safety Authority ('the Authority') to carry out an assessment of 2′-FL produced by microbial fermentation using a genetically modified derivative strain of *Escherichia coli* W ATCC 9637.

(10) On 26 September 2023, the Authority adopted its scientific opinion on the 'Safety of 2′-fucosyllactose (2′-FL) produced by a derivative strain (*Escherichia coli* SGR5) of *E. coli* W (ATCC 9637) as a novel food pursuant to Regulation (EU) 2015/2283'[24] in accordance with the requirements of Article 11 of Regulation (EU) 2015/2283.

(11) In its scientific opinion, the Authority concluded that 2′-FL produced by microbial fermentation using a genetically modified derivative strain of *Escherichia coli* (W ATCC 9637) is safe when used under the currently authorised conditions of use. Therefore, that scientific opinion gives sufficient grounds to establish that 2′-FL produced by microbial fermentation using a genetically modified derivative strain of *Escherichia coli* W (ATCC 9637) when used at under currently authorised conditions of use fulfils the conditions for its placing on the market in accordance with Article 12(1) of Regulation (EU) 2015/2283.

(12) In its scientific opinion, the Authority noted that its conclusion on the safety of the novel food was based on scientific studies and data from the nuclear magnetic resonance ('NMR') tests for the determination of the identity of 2′-FL; the description of the genetically modified strain of *Escherichia coli* W (ATCC 9637) production strain including its genome sequence and antimicrobial susceptibility studies; the detailed description of the production process including the raw materials and processing aids used; the compositional analyses data and the stability studies of the novel food; the bacterial reverse mutation test with 2′-FL; the *in vitro* mammalian cell micronucleus test with 2′-FL; the *in vivo* mammalian cell micronucleus test with 2′-FL; the 90-day oral toxicity study in rats with 2′-FL; and, the bioinformatics analysis study on the genome of the *Escherichia coli* W ATCC 9637 to detect heterologous sequences that could encode possible allergens, contained in the applicant's file, without which it could not have assessed the novel food and reached its conclusion.

(13) The Commission requested the applicant to further clarify the justification provided with regard to their proprietary claim over those studies and data, and to clarify its claim to an exclusive right of reference to them in accordance with Article 26(2)(b) of Regulation (EU) 2015/2283.

(14) The applicant declared that they held proprietary and exclusive rights of reference to scientific studies and data from the nuclear magnetic resonance ('NMR') tests for the determination of the identity of 2′-FL; the description of the genetically modified strain of *Escherichia coli* W (ATCC 9637) production strain including its genome

---

20 Kyowa Hakko Bio Co., Ltd, 2022 (unpublished).
21 Kyowa Hakko Bio Co., Ltd, 2019 (unpublished).
22 Kyowa Hakko Bio Co., Ltd, 2020 (unpublished).
23 Kyowa Hakko Bio Co., Ltd, 2021 and 2022 (unpublished).
24 EFSA Journal 2023;21(11):8333.

sequence and antimicrobial susceptibility studies; the detailed description of the production process including the raw materials and processing aids used; the compositional analyses data and the stability studies of the novel food; the bacterial reverse mutation test with 2′-FL; the *in vitro* mammalian cell micronucleus test with 2′-FL; the *in vivo* mammalian cell micronucleus test with 2′-FL; the 90-day oral toxicity study in rats with 2′-FL; and, the bioinformatics analysis study on the genome of the *Escherichia coli* W (ATCC 9637) to detect heterologous sequences that could encode possible allergens, under national law at the time they submitted the application and that third parties cannot lawfully access, use or refer to those data and studies.

(15) The Commission assessed all the information provided by the applicant and considered that the applicant has sufficiently substantiated the fulfilment of the requirements laid down in Article 26(2) of Regulation (EU) 2015/2283. Therefore, scientific studies and data from the nuclear magnetic resonance ('NMR') tests for the determination of the identity of 2′-FL; the description of the genetically modified strain of *Escherichia coli* W (ATCC 9637) production strain including its genome sequence and antimicrobial susceptibility studies; the detailed description of the production process including the raw materials and processing aids used; the compositional analyses data and the stability studies of the novel food; the bacterial reverse mutation test with 2′-FL; the *in vitro* mammalian cell micronucleus test with 2′-FL; the *in vivo* mammalian cell micronucleus test with 2′-FL; the 90-day oral toxicity study in rats with 2′-FL; and, the bioinformatics analysis study on the genome of the *Escherichia coli* W (ATCC 9637) to detect heterologous sequences that could encode possible allergens, should be protected in accordance with Article 27(1) of Regulation (EU) 2015/2283. Accordingly, only the applicant should be authorised to place 2′-FL produced with a derivative strain of *Escherichia coli* W (ATCC 9637) on the market within the Union during a period of five years from the entry into force of this Regulation.

(16) However, restricting the authorisation of 2′-FL produced with a derivative strain of *Escherichia coli* W (ATCC 9637) and the reference to the scientific data contained in the applicant's file for the sole use by them does not prevent subsequent applicants from applying for an authorisation to place on the market the same novel food provided that their application is based on legally obtained information supporting such an authorisation.

(17) On 30 June 2021, the company Chr. Hansen A/S ("the second applicant") submitted an application to the Commission in accordance with Article 10(1) of Regulation (EU) 2015/2283 for a change in the conditions of use of 2′-FL. The applicant requested the increase in the maximum authorised levels of 2′-FL in infant formulae and follow-on formulae as defined in Article 2 of Regulation (EU) No 609/2013 of the European Parliament and of the Council[25], from the currently authorised 1.2 g/L in both infant formulae and follow-on formulae to 3.0 g/L in infant formulae and to 3.64 g/L in follow-on formulae.

[25] Regulation (EU) No 609/2013 of the European Parliament and of the Council of 12 June 2013 on food intended for infants and young children, food for special medical purposes, and total diet replacement for weight control and repealing Council Directive 92/52/EEC, Commission Directives 96/8/EC, 1999/21/EC, 2006/125/EC and 2006/141/EC, Directive 2009/39/EC of the European Parliament and of the Council and Commission Regulations (EC) No 41/2009 and (EC) No 953/2009 (OJ L 181, 29.6.2013, p. 35).

(18) In accordance with Article 10(3) of Regulation (EU) 2015/2283, on 28 September 2022, the Commission requested the Authority to carry out an assessment of the proposed increase in the maximum authorised levels of 2′-Fucosyllactose in infant formulae and follow-on formulae.

(19) On 26 September 2023, the Authority adopted its scientific opinion on the 'Safety of the extension of use of 2′-fucosyllactose (2′-FL) as a novel food pursuant to Regulation (EU) 2015/2283'[26], in accordance with the requirements of Article 11 of Regulation (EU) 2015/2283.

(20) In its scientific opinion, the Authority concluded that 2′-FL is safe when used in infant formulae and follow-on formulae, as defined in Regulation (EU) No 609/2013, at maximum levels of 3.0 g/L and 3.64 g/L respectively. Therefore, that scientific opinion gives sufficient grounds to establish that 2′-FL used at these levels in infant formulae and follow-on formulae as defined in Regulation (EU) No 609/2013, fulfils the conditions for its placing on the market in accordance with Article 12(1) of Regulation (EU) 2015/2283.

(21) On 27 October 2023, the second applicant submitted another application to the Commission in accordance with Article 10(1) of Regulation (EU) 2015/2283 for a change in the specifications of 2′-Fucosyllactose produced by fermentation using a derivative of *Escherichia coli* strain BL21. The applicant requested the increase in the authorised maximum levels of residual endotoxin limits from the currently authorised ≤ 0.1 Endotoxin Units ('EU')/mg of novel food to ≤ 10 EU/mg of novel food.

(22) In that application, the second applicant considered that the increase in the residual endotoxin limits would align in a consistent manner the residual endotoxin limits of 2′-FL produced with a derivative of *Escherichia coli* strain BL21 with the authorised residual endotoxin limits of 2′-FL produced with a derivative of *Escherichia coli* strain K-12 which is used at the same conditions of use as 2′-FL produced with a derivative of *Escherichia coli* strain BL21, and with the authorised residual endotoxin limits of other authorised human identical milk oligosaccharides which are also used at identical or similar levels in infant formulae and follow on formulae.

(23) The Commission considers that the requested update of the Union list of novel foods to increase the residual endotoxin limits in the specifications of 2′-FL produced with a derivative of *Escherichia coli* strain BL21 is not liable to have an effect on human health and that a safety evaluation by the Authority in accordance with Article 10(3) of Regulation (EU) 2015/2283 is not necessary. In this regard, the Authority's opinions[27,28,29] on other currently authorised human identical milk oligosaccharides with residual endotoxin limits ≤ 10 EU/mg of novel food that are used at the same or similar conditions of use with 2′-FL produced with a derivative of *Escherichia coli* strain BL21, concluded that these maximum residual levels of residual endotoxins, are safe.

(24) The information provided in the applications and the Authority's opinions give sufficient grounds to establish that the changes in the specifications of the novel food 2′-Fucosyllactose (microbial source) to authorise 2′-FL produced with a derivative strain of *Escherichia coli* W ATCC 9637, the changes in the specifications of 2′-FL

[26] EFSA Journal 2023;21(11):8334.
[27] EFSA Journal 2019;17(6):5717.
[28] EFSA Journal 2022;20(5):7329.
[29] EFSA Journal 2023;21(6):8026.

produced by fermentation using a derivative of *Escherichia coli* strain BL21 to modify the limits of residual endotoxins, and the changes in the conditions of use of 2′-FL to increase its maximum use levels in infant formulae and follow-on formulae as defined in Regulation (EU) 609/2013, are in accordance with the conditions of Article 12 of Regulation (EU) 2015/2283 and should be approved.

(25) The Annex to Implementing Regulation (EU) 2017/2470 should therefore be amended accordingly.

(26) The measures provided for in this Regulation are in accordance with the opinion of the Standing Committee on Plants, Animals, Food and Feed,

HAS ADOPTED THIS REGULATION:

Article 1

The Annex to Implementing Regulation (EU) 2017/2470 is amended in accordance with the Annex to this Regulation.

Article 2

Only the company "Kyowa Hakko Bio Co., Ltd" [30] is authorised to place on the market within the Union the novel food 2′-Fucosyllactose (microbial source) produced with a derivative strain of *Escherichia coli* W ATCC 9637, for a period of five years from the date of entry into force of this Regulation [*OP please insert the date*], unless a subsequent applicant obtains an authorisation for that novel food without reference to the scientific data protected pursuant to Article 3 or with the agreement of "Kyowa Hakko Bio Co., Ltd".

Article 3

The scientific data contained in the application file and fulfilling the conditions laid down in Article 26(2) of Regulation (EU) 2015/2283 shall not be used for the benefit of a subsequent applicant for a period of five years from the date of entry into force of this Regulation without the agreement of "Kyowa Hakko Bio Co., Ltd".

Article 4

This Regulation shall enter into force on the twentieth day following that of its publication in *the Official Journal of the European Union*.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

[30] Address: 1-9-2, Otemachi, Choyoda-ku Tokyo, 100-0004 Japan.

Done at Brussels,

For the Commission
The President
Ursula VON DER LEYEN