

BRUDY NEO

Food For Special Medical Purposes (FSMP)
Source of Very Long Chain Triglycerides Omega-3 (DHA) and Omega-6 (ARA)

Triglyceride DHA and ARA module for preterm infants



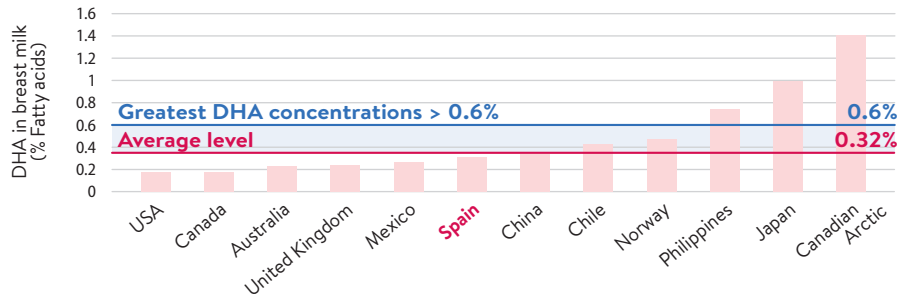
Vial with 0.35ml of oil:
200mg DHA and 20mg ARA

**DHA and ARA are absolutely essential
for the correct intellectual and visual
development of the neonate^{1,2}**



Influence of a diet rich in DHA on breast milk³

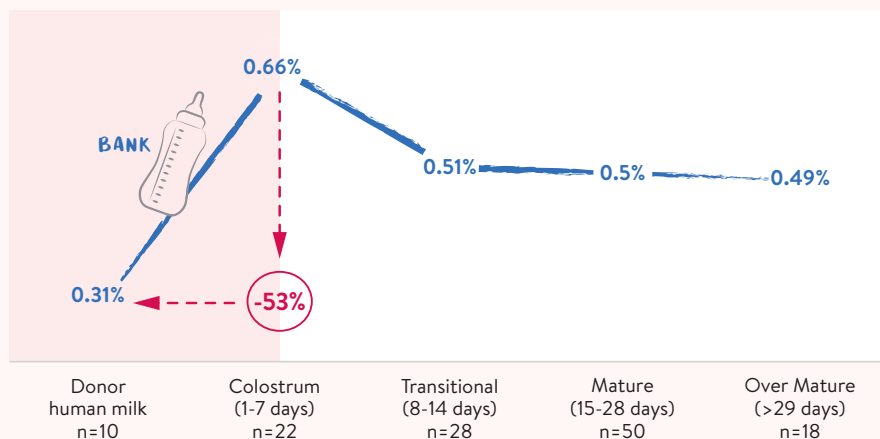
Percentages of DHA over total fatty acids present in the milk of 2,474 mothers from different countries of the world⁴



- The levels of DHA in breast milk drop throughout the first month of breastfeeding in premature infants, reaching the suboptimal level of less than 0.4% of the fatty acids present.⁵
- Mature milk from donor banks shows insufficient DHA levels for premature infants, especially during the first days of life.⁵

Inadequate content of DHA in donor human milk for feeding preterm infants: a comparison with breast milk at different stages of lactation⁵

Percentage of DHA (C22:6 n-3) from milk's total fatty acids

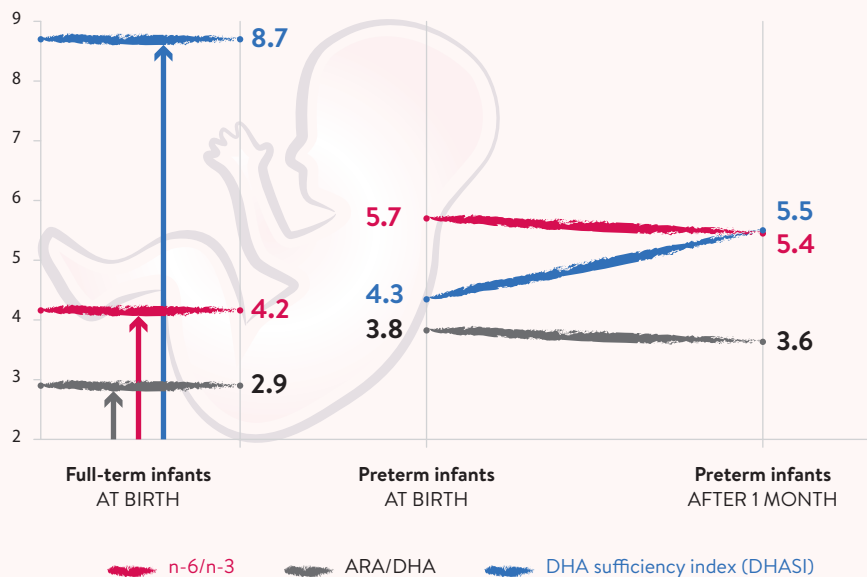


- CONCLUSIONS:**
- Use of pasteurized donor human milk as exclusive feeding or combined with breastfeeding provides an inadequate supply of DHA to preterm infants.
 - Milk banking should include DHA fortification to guarantee adequate DHA levels in donor human milk.

A balanced fortification is required when the polyunsaturated fatty acid levels of the breast milk are too low^{5,6}

- These findings are corroborated by the **low levels of DHA detected in the erythrocyte membrane of children born prematurely**, compared to those found in infants born at term.⁶

PUFAs ratios in erythrocyte membrane of preterm neonates at birth and during the first month of life: differences with full-term infants⁶



- CONCLUSIONS:**
- At birth, preterm infants show higher n6/n3 and ARA/DHA ratios, and lower DHASI than full-term infants.
 - After 1 month, preterm infants still show significantly higher levels of n6/n3 and ARA/DHA ratios, and a significantly lower DHASI than full-term infants at birth.

DHA fortification is strongly recommended in preterm infants, as well as supplementing pregnant and lactating mothers



BRUDYLAB®

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INGREDIENTS:

Fish oil concentrated in Omega-3 fatty acids (rich in docosahexaenoic acid), Mortierella alpina oil (rich in arachidonic acid), emulsifier (sunflower lecithin) and antioxidants (extract rich in tocopherols and ascorbyl palmitate).

APPEARANCE:

Yellow oil. Once the product is reconstituted with water, a white emulsion appears.

PRESENTATION:

Individual amber glass vials with 0.35 ml of product packaged in a protected atmosphere. Gluten and dairy free.

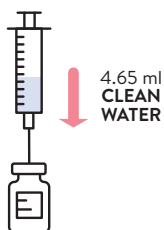
INDICATIONS:

For managing diets where a DHA and ARA triglyceride supplement is needed or when enriching the diet with these specific triglycerides.

HOW TO USE:

Preparation of the emulsion:

- 1 Using a syringe and a needle, proceed to inject 4.65 ml of clean water into the vial.



- 2 **Shake the vial vigorously for one minute** to achieve a good emulsification.



For successive extractions, shake the contents of the container well before each subsequent extraction. The amount of emulsion indicated by the doctor can be applied directly into breast milk for administration in a bottle, or directly through an enteral tube.

IMPORTANT:

This product must be used under medical supervision. It is not suitable to be consumed as the only food source. **Intended for premature infants.** The dosage of BRUDY NEO to be added to breast milk —whether from the mother or a breast milk bank— will be determined by the pediatrician. The pediatrician will also decide the frequency of daily doses.

CONSERVATION:

Once reconstituted, the content of the vial must be used within the 24 hours and it must be kept refrigerated between 2° and 10°C.

DATE OF EXPIRY:

Is indicated on the vial.

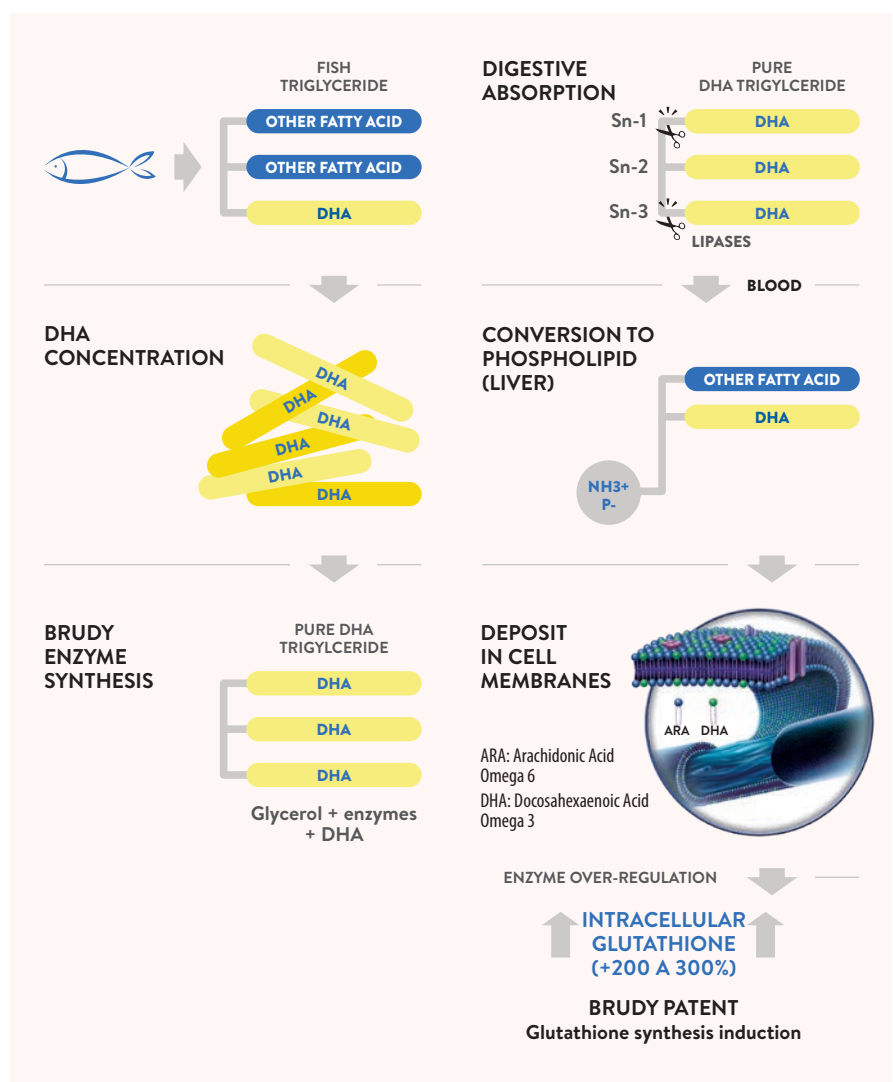


(to reconstitute with water until reaching 5 ml volume)

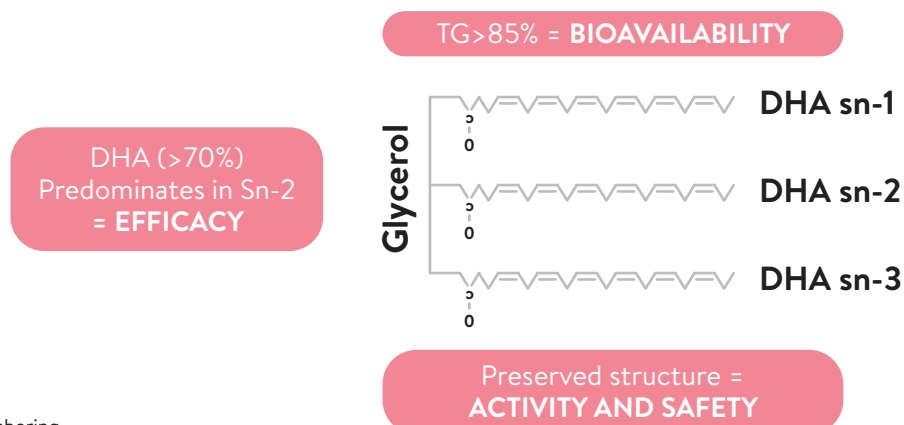
▶ Tridocosahexanoína-AOX® Synthesis

THE 10 STEPS to convert fish triglycerides into triglycerides with DHA at the central position (Sn-2), such as those found in human breast milk:

1. Starting from fish (tuna) triglycerides.
2. Removal of all FAs other than DHA.
3. Double distillation and adsorption to remove contaminants and heavy metals.
4. A DHA concentrate is obtained.
5. Complete removal of ethanol.
6. Enzyme re-synthesis of triglycerides, resulting in more than 80% with DHA at the central position (Sn-2).
7. Digestive lipases break the bonds at the Sn-1 and Sn-3 positions.
8. The monoglyceride with central DHA is absorbed intact into the bloodstream.
9. Transformation into DHA phospholipid for insertion into the cell membrane.
10. Cellular oxidative protection (BRUDY TECHNOLOGY PATENT: DHA stimulates intracellular glutathione synthesis⁷ by between 200% and 300%, the latter being the main electron-donating antioxidant in mammalian cells).



▶ Triglyceride with a predominance of DHA in position Sn-2* to improve membrane bioavailability, as DHA is mostly found in human breast milk.²



*Sn = Stereospecific numbering



BRUDY NEO

Food for Special Medical Purposes

0.35ml vial to reconstitute with water up to 5ml in volume:

DHA 200mg and ARA 20mg per vial (DHA 40mg and ARA 4mg in 1ml)

· For preterm infants ·

NUTRITIONAL INFORMATION	1 vial (0,34 g)	En 100 g
Energy values	3,1 kcal 12,8 kJ	900 kcal 3765 kJ
Fats, of which:	0,34 g	100 g
Saturated	0,01 g	3,3 g
Monounsaturated	0,01 g	3,6 g
Polyunsaturated	0,32 g	93 g
DHA (Docosahexaenoic acid)	0,2 g	58,7 g
ARA (Arachidonic acid)	0,02 g	5,9 g
Carbohydrates of which sugars	0 g 0 g	0 g 0 g
Proteins	0 g	0 g
Salt	0 g	0 g

BIBLIOGRAPHY:

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- J Thomas Brenna, et al; Docosahexaenoic and arachidonic acid concentrations in human breast milk worldwide; Am J Clin Nutr 2007;85:1457–64.
- Félix Castillo, et al; Inadequate Content of Docosahexaenoic Acid (DHA) of Donor Human Milk for Feeding Preterm Infants: A Comparison with Mother's Own Milk at Different Stages of Lactation; Nutrients 2021, 13, 1300.
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- P. Bogdanov, et al.; Docosahexaenoic Acid Improves Endogen Antioxidant Defense in Arpe-19 Cells; IOVS, ARVO Journals; May 2008, Vol.49, 5932. doi:

Calculation of the daily dose of the BRUDY NEO emulsion based on the weight of the premature infant

Weight (g)	Mother's milk		Bank milk	
	Dose 20mg DHA/day	Emulsion: ml/day	Dose 40mg DHA/day	Emulsion: ml/day
400	8	0,2	16	0,4
500	10	0,25	20	0,5
600	12	0,3	24	0,6
700	14	0,35	28	0,7
800	16	0,4	32	0,8
900	18	0,45	36	0,9
1000	20	0,5	40	1
1100	22	0,55	44	1,1
1200	24	0,6	48	1,2
1300	26	0,65	52	1,3
1400	28	0,7	56	1,4
1500	30	0,75	60	1,5
1600	32	0,8	64	1,6
1700	34	0,85	68	1,7
1800	36	0,9	72	1,8
1900	38	0,95	76	1,9
2000	40	1	80	2
2100	42	1,05	84	2,1
2200	44	1,1	88	2,2
2300	46	1,15	92	2,3
2400	48	1,2	96	2,4
2500	50	1,25	100	2,5
2600	52	1,3	104	2,6
2700	54	1,35	108	2,7
2800	56	1,4	112	2,8
2900	58	1,45	116	2,9
3000	60	1,5	120	3
3100	62	1,55	124	3,1
3200	64	1,6	128	3,2
3300	66	1,65	132	3,3
3400	68	1,7	136	3,4
3500	70	1,75	140	3,5
3600	72	1,8	144	3,6
3700	74	1,85	148	3,7
3800	76	1,9	152	3,8
3900	78	1,95	156	3,9
4000	80	2	160	4
4100	82	2,05	164	4,1
4200	84	2,1	168	4,2
4300	86	2,15	172	4,3
4400	88	2,2	176	4,4
4500	90	2,25	180	4,5