

SONIA KILLIK

# Birth

AN HONEST GUIDE  
TO NATURAL, EPIDURAL  
AND CAESAREAN CHOICES



**BREASTMILK VS FORMULA  
NUTRITIONAL GUIDE**

# Birth

## BREASTMILK

<b>Water</b>	<b>Carbohydrates</b> (energy source)	Lactose	Oligosaccharides
Carboxylic Acid	Alpha hydroxy acid	Lactic acid	
<b>Proteins</b>	Whey-proteins	HAMLET (Human alpha-lactalbumin made lethal to tumour cells)	Lactoferrin
Many antimicrobial factors	Casein	Serum albumin	
<b>Non-protein nitrogens</b>	Creatine	Creatinine	Urea
Uric acid	Peptides		
<b>Amino acids</b>	Alanine	Arginine	Aspartate
Glycine	Cystine	Glutamate	Histidine
Isoleucine	Leucine	Lycine	Methionine
Phenylalanine	Proline	Serine	Taurine
Threonine	Tryptophan	Tyrosine	Valine
Carnitine			
<b>Nucleotides</b>	5'-Adenosine monophosphate (5'-AMP)	3':5'-Cyclic adenosine monophosphate (3':5'Cyclic-AMP)	5'-Cytidine monophosphate (5'-CMP)
Cytidine diphosphate choline (CDP choline)	Guanosine diphosphate (UDP)	Guanosine diphosphate-mannose	3'-Uridine monophosphate (3'-UMP)
5'- Uridine monophosphate (5'-UMP)	Uridine diphosphate (UDP)	Uridine diphosphate hexose (UDPH)	Uridine diphosphate-N-acetyl-hexosamine (UDPAH)
Uridine diphosphoglucuronic acid (UDPGA)		Several more novel nucleotides of the UPD type	
<b>Fats</b>	Triglycerides	Long-chain polyunsaturated fatty acids	Docosahexaenoic acid (DHA)
Arachidonic acid (AHA)	Linoleic acid	Alpha-linolenic (ALA)	Eicosapentaenoic acid (EPA)
Conjugated linoleic acid (Rumenic Acid)	Free Fatty Acids	Monounsaturated fatty acids	Oleic acid
Palmitoleic acid	Heptadecenoic acid	Saturated fatty acids	Stearic
Palmitic acid	Lauric acid	Myristic acid	

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BREASTMILK			
<b>Phospholipids</b>	Phosphatidylcholine	Phosphatidylethanolamine	Phosphatidylinositol
Lysophosphatidylcholine	Lysophosphatidylethanolamine	Plasmalogens	
<b>Sphingolipids</b>	Sphingomyelin	Gangliosides	GM1
GM2	GM3	Glucosylceramide	Glycosphingolipids
Galactosylceramide	Lactosylceramide	Globotriaosylceramide (GB3)	Globoside (GB4)
<b>Sterols</b>	Squalene	Lanosterol	Dimethylsterol
Methosterol	Lethosterol	Desmosterol	Triacylglycerol
Cholesterol	7-dehydrocholesterol	Stigma-and campesterol	7-ketocholesterol
Sitosterol	B-lathosterol	Vitamin D metabolites	Steroid hormones
<b>Vitamins</b>	Vitamin A	Beta carotene	Vitamin B6
Vitamin B8 (Inositol)	Vitamin B12	Vitamin C	Vitamin D
Vitamin E	$\alpha$ -Tocopherol	Vitamin K	Thiamine
Riboflavin	Niacin	Folic acid	Pantothenic acid
Biotin			
<b>Minerals</b>	Calcium	Sodium	Potassium
Iron	Zinc	Chloride	Phosphorus
Magnesium	Copper	Manganese	Iodine
Selenium	Choline	Sulphur	Chromium
Cobalt	Fluorine	Nickel	Molybdenum
<b>Growth Factors</b>	Cytokines	Interleukin-1B (IL-1B)	IL-2
IL-4	IL-6	IL-8	IL-10
Granulocyte-colony stimulating factor (G-CSF)	Macrophage-colony stimulating factor (M-CSF)	Platelet derived growth factors (PDGF)	Vascular endothelial growth factor (VEGF)
Hepatocyte growth factor- $\alpha$ (HGF- $\alpha$ )	HGF-B	Tumor necrosis factor- $\alpha$	Interferon- $\gamma$
Transforming growth factor- $\alpha$ (TGF- $\alpha$ )	TGF B1	TGF B2	Insulin-like growth factor-1 (IGF-1) also known as somatomedin C)
Insulin-like growth factor-11	Nerve growth factor (NGF)	Erythropoietin	

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BREASTMILK			
<b>Peptides</b>	HMGF 1 (Human growth factor)	HMGF 11	HMGF 111
Cholecystokinin (CCK)	B-endorphins	Parathyroid hormone (PTH)	Parathyroid hormone-related peptide (PTHrP)
B-defensin-1	Calcitonin	Gastrin	Motilin
Bombesin	Neurotensin	Somatostatin	
<b>Hormones</b>	Cortisol	Triiodothyronine (T3)	Thyroxine (T4)
Thyroid stimulating hormone (TSH)	Thyroid releasing hormone (TRH)	Prolactin	Oxytocin
Insulin	Corticosterone	Thrombopoietin	Gonadotropin-releasing hormone (GnRH)
GRH	Leptin	Ghrelin	Adiponectin
Feedback inhibitor of lactation (FIL)			
<b>Eicosanoids</b>	Prostaglandins	PG-E1	PG-E2
PG-F2	Leukotrienes	Thromboxanes	Prostacyclins
<b>Enzymes</b>	Amylase	Arylsulfatase	Catalase
Histaminase	Lipase	Lysozyme	PAF-acetylhydrolase
Phosphatase	Xanthine oxidase	Antiproteases	a -1-antitrypsin
a -1-antichymotrypsin			
<b>Antimicrobial factors</b>	Leukocytes	Phagocytes	Basophils
Neutrophils	Eosinophils	Macrophages	Lymphocytes
B lymphocytes	T lymphocytes	sigA	IgA2
IgG	IgD	Complement C1	Complement C2
Complement C3	Complement C4	Complement C5	Complement C6
Complement C7	Complement C8	Complement C9	
<b>Glycoproteins</b>	Mucins	Lactadherin	Alpha-lactoglobulin
Alpha-2 macroglobulin	Lewis antigens	Ribonuclease	Haemagglutinin inhibitors
Bifidus factor	Lactoferrin	Lactoperoxidase	B12 binding protein
Fibronectin	Oligosaccharides (more than 200 different kinds)		

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# Birth

## FORMULA

<b>Water</b>	<b>Carbohydrates</b>	Lactose	
Corn maltodextrin (food additive commonly used for the production of soda drinks and sweets)			
<b>Protein</b>	Partially hydrolysed reduced minerals whey concentrate (from cow's milk)	Amino acids	
Taurine	L-Carnitine	Nucleotides	Cytidine 5-monophosphate
Disodium uridine 5-monophosphate	Adenosine 5-monophosphate	Disodium guanosine 5-monophosphate	
<b>Fats</b>	Palm olein	Soybean oil	Coconut oil
High oleic safflower oil	Mortierella alpina oil (Fungal DHA)	Crypthecodinium cohnii (algal ARA)	
<b>Vitamins</b>	Sodium ascorbate	Inositol	Choline bitartrate
Alpha-Tocopheryl acetate	Niacinamide	Calcium pantothenate	Riboflavin
Vitamin A acetate	Pyridoxine hydrochloride	Thiamine mononitrate	Folic acid
Phyloquinone	Biotin	Vitamin D3	Vitamin B12
<b>Minerals</b>	Potassium citrate	Potassium phosphate	Calcium chloride
Tricalcium phosphate	Magnesium chloride	Zinc sulphate	Ferrous sulphate (iron)
Sodium chloride	Copper sulphate	Potassium iodide	Manganese sulphate
Sodium selenate			
<b>Enzymes</b>	Trypsin		
<b>Additives</b>	Soy lecithin	Sucrose	Vanilla (flavouring)

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