



CHAPTER 4 : INFANT NUTRITION



Effect of Dietary Ribonucleotides on Infant Immune Status. Part 2: Immune Cell Development

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Summary This study reports the effect of dietary ribonucleotides on immune cell maturation and function during the first year of life.

- The study design was a prospective, randomized, double-blind, parallel, multicenter, longitudinal study of healthy term infants (n=477).
- Infants were fed the assigned formula from enrollment to 12 months of age. After 4 months, other foods were permitted. Human milk-fed infants, if weaned after 2 months, were fed unsupplemented formula.
- Blood was drawn at the ages of 2, 6, 7, and 12 months for a total white blood cell count, including lymphocytes, monocytes, neutrophils, eosinophils, and basophils, and a variety of immune cell analyses.
- Dietary ribonucleotides affected various T-cell populations in infants, suggestive of an increased maturation of the cellular immune system in the nucleotide-supplemented group compared with the control group. These changes in response to nucleotide supplementation were consistent with those seen in human milk-fed infants.

Importance This study is important because it shows that the addition of nucleotides to infant formula, at levels similar to those in human milk, results in infant immune cell outcomes comparable to those of the breastfed infant.

Atopic disease

Bone

Breastfeeding

Calcium

Calories

Carbohydrates

Carotenoids

Cognition

Donor milk

Fats

Fortification

Gastrointestinal system

Growth

Infection/Immunity

Iron

Lutein

Maternal health

Minerals

Nucleotides

Palm olein

Prenatal

Probiotics/Prebiotics

Protein

Tolerance

Vision

Vitamins