Supplementation Of Milk Formulas With Microvesicles Isolated From Milk (Hadasit)

code: 8-2016-315

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Need:

Breastfeeding provides a principal nutritional source and very valuable contributor to infant health. Infant milk formula, which is nutritionally designed to replace breastfed milk, lacks exosomes found in natural milk. Exosomes carry key molecules such as micro-RNAs (miRNAs) for transfer into cells. Natural milk miRNAs produced in mammary glands traverse the GI tract and enter the systemic circulation of infants, where they exert immune-protective and developmental functions. Worldwide sales of infant milk formula are >$10B, with an increasing demand for premium and innovative products that maintain the properties of breast milk.

Innovation

A method for isolation of natural cow milk exosomes that contain beneficial ingredients such as miRNAs and are not part of currently marketed infant formulas that commonly use plant-derived oils.

R&D status

- POC for exosomes and miRNAs isolation method
- Characterization of miRNA expression in exosomes from multiple milk sources
- In vitro POC that isolated exosomes penetrate gut cells and cancer cells

Indications/applications

Supplementation of exosomes and their components into existing infant formulas or other milk-derived food products.

Competitive advantage

The market for infant liquid and powder has recently become aware of the need to match breast milk in terms of ingredients and nutritional benefit to the infant. Adding natural ingredients such as exosomes of natural milk into existing formula should be a significant competitive advantage for players in the market.

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