

Stem Cell Research; Stem Cells in Breastmilk

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2011 NOV 26 - (VerticalNews.com) -- The theory developed in 2007 by scientists at the University of Western Australia (UWA) that breastmilk contains stem cells has been taken to a higher level with the latest discovery by one of the team's newer members. UWA Ph.D. candidate Foteini Hassiotou has proven that stem cells from breastmilk can now be directed to become other body cell types such as bone, fat, liver and brain cells. Could this finally be the answer to ethically and easily obtaining pluripotent stem cells in a non-invasive manner? And what does this mean with regard to the unique power of breastmilk for the growth and development of babies?

Stem Cells in Breastmilk - Theory Becomes Reality

Following Hassiotou's recent win of the 2011 **AusBiotech**-GSK Student Excellence Award for her research into breastmilk stem cells (Oct. 17, 2011), Medela is proud to announce Hassiotou's first presentation of her findings of stem cells in breastmilk in Europe early next year. She will share her findings during Medela's 7th International Breastfeeding and Lactation Symposium to be held in Vienna, Austria from April 20-21, 2012.

This discovery by Hassiotou, who is part of the Human Lactation Research Group under the direction of Professor Peter Hartmann at the University of Western Australia, may well be the answer to ethically and easily obtaining stem cells in a non-invasive manner. The value in harvesting stem cells from breastmilk lies in their incredible potential to develop into many different cell types in the body during early life and growth. They have the ability to act as a type of "internal repair system." With both types of stem cells (embryonic and adult), however, well-documented hurdles exist both from an ethical as well as from a practical harvesting perspective.

Medela has been working with the Hartmann Human Lactation Research Group since the mid-1990s resulting in numerous scientific breakthroughs including overturning a 160-year old anatomical model of the lactating human breast, and a unique insight into the sucking, swallowing and breathing mechanism that babies must master to feed properly. The Group has been working on the subject of stem cells for over five years.

"It is great to see the biology of breastmilk stem cells unfold and to be able to demonstrate new findings that take our knowledge a step further. Through the financial support of Medela it has been possible for me to conduct this research, which shows for yet another reason why breastmilk is so much more than nutrition for the baby," said Hassiotou. "In addition, it is becoming clear that breastmilk can serve as an ethical, non-invasive and plentiful source for human stem cells--but a lot of questions still remain unanswered, especially about the function of these cells in the breastfed baby. I feel proud to be part of this exciting journey of discovery, and I plan to continue this research at The University of Western Australia."

Medela is committed to supporting research into the unique composition and value of human milk.

"We are proud that Medela can support scientists in their work to uncover the power and promise of human milk," said Renate Schreiber, CEO of Medela. "The existence of stem cells in human milk is very exciting and we are curious to better understand the contribution that these cells can make to the health of the baby."

First Presentation in Europe at the Symposium in Vienna

Medela's 7th International Breastfeeding and Lactation Symposium to be held in Vienna, Austria (April 20-21, 2012) will focus on the unique components of human milk, the value of human milk in neonatal intensive care units (NICUs), as well as latest recommendations for research-based practice. Hassiotou will be joined by several international experts who will share their latest findings on a number of related topics including the presence of oligosaccharides in human milk, the value of donor milk in NICU, medication in mother's milk, etc. This annual event is attended by pediatricians, neonatologists, midwives and lactation consultants, all of whom have a special interest in learning more about breastmilk composition.

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