

A Dermatologist's view of the Exciting, cutting edge research in Stem Cells for Cosmetics

Interview with Dr. Patricia K Farris, Clinical Assistant Professor, Tulane University School of Medicine

EURO COSMETICS: *Dr. Farris, As you know, the growing use of stem cells for cosmetic applications has been of high interest to the technical, medical and lay community. What is your view of the current state of the art in this area?*

Dr. Patricia K Farris: Although this is an area of great potential there are still many questions about products claiming to rejuvenate skin by influencing stem cell function. Stem cells reside throughout the epidermis and dermis and are essential in that they replenish cells and constituents that are lost as part of the aging process. As we age, the number of stem cells remains relatively constant but what happens is that they become less responsive to the normal signaling that maintains their growth and proliferation. Various strategies have been used to try to turn on aging stem cell function including applying growth factors, cytokines and other molecules that at least in theory should encourage them to function more optimally. Although many of cosmeceutical products containing these stem cell boosting compounds have enjoyed success in the marketplace, there are really few objective studies confirming their efficacy.

EURO COSMETICS: *What areas of stem cells seem most far along relative to their use in particular cosmetic categories? Are we already seeing products on the market?*

Dr. Patricia K Farris: Growth factor products are probably the most plentiful in the market. There are plant, animal and human growth factor containing products currently available. Growth factors are very large molecules that are unlikely to penetrate human skin. For this reason, further studies on mechanism of action and efficacy of these products are warranted.

EURO COSMETICS: *What areas do you consider most encouraging for continued re-*



Dr. Patricia K Farris.

search to generate new products based on stem cells?

Dr. Patricia K Farris: The use of plant stem cells to produce active ingredients is a very promising area. Using meristem cells we can produce very specific ingredients such as antioxidants, growth factors and others making these extracts a potent and plentiful resource for actives.

EURO COSMETICS: *Could you please comment on the current state of understanding as to the safety of various sources of stem cells?*

Dr. Patricia K Farris: Human stem cells themselves are actually not found in stem cell cosmeceuticals. Products using human stem cell derived molecules have been in the market for many years and appear to be generally safe after long term use. It should be mentioned that there are safety concerns about inducing indiscriminate stem cell proliferation by whatever means might be employed. In theory hyperproliferation of stem cells may induce skin tumors or even skin cancer. This remains a theoretical risk for this category of products.

EURO COSMETICS: *Please tell us a bit about your background, experience and what you do in the area of stem cells and cosmetic research.*

Dr. Patricia K Farris: My area of interest has always been in cosmeceutical products and active ingredients. I edited a textbook, Cosmeceuticals and Cosmetic Practice, that addresses some of the newest categories of cosmeceuticals including stem cells. I am not a researcher per se but have assisted cosmetic companies in designing and evaluating clinical trials. In addition I have served as a consultant to major cosmetic and pharmaceutical companies such as L'Oreal, Beiersdorf, Proctor&Gamble and Obagi Medical just to name a few.

EURO COSMETICS: *Since interest in sustainability has risen exponentially in recent years can you tell us what the benefits of plant stem cells are, as you currently see them.*

Dr. Patricia K Farris: I do think plant stem cells are an excellent option with good sustainability. A callus that is induced by wounding a plant contains non-differentiated stem cells. These stem cells can then be cultured creating sustainable resource for ingredients.

EURO COSMETICS: *In today's cosmetic market, can you give us an overview of the categories and types of cosmetic products where stem cells are being used and what directions you see this happening in.*

Dr. Patricia K Farris: We have stem cell derivatives being used in cosmetics already but I suspect the next emerging category of beauty products that will tout stem cells will be products for hair growth.

EURO COSMETICS: *Thank you for the conversation.*