



## Transformation Products

The Jan Marini Transformation Line features a remarkable patented cytokine technology that includes a combination of TGF beta-1 (transforming growth factor), thymosin beta-4, pentapeptides GM and GD and vascular growth factor. Cytokines, among other actions, act as intercellular mediators that signal certain cellular interplays necessary for maintaining young-appearing healthy skin.

The transformation line is exceptional for use both on damaged (aging, photo-damaged or sensitive post-procedure) skin and as a means to maintain healthy youthful skin.

### Transforming Growth Factor beta-1

Research has uncovered tremendous value for TGF beta-1 in its ability to signal certain actions causing enhanced skin functioning when applied topically.

Studies at Vanderbilt University School of Medicine, Cornell Medical College, and Jefferson Medical College have shown that TGF beta-1 encourages significant collagen and elastin production, and gives supplemental support to healing factors enabling wounds to heal markedly faster. Anti-inflammatory factors also appear to be beneficially affected.

One distinguished medical researcher has referred, in interviews, to TGF beta-1 as being essential for the normal production of collagen and elastin. He also believes that TGF beta-1 may be the answer to keeping the skin young indefinitely. Collective scientific opinion appears to view TGF beta-1 as a major tool in helping to reverse the visible signs of aging.

### Thymosin beta-4

Thymosin beta-4 is a string of 43 amino-acid peptides that assists in regulating immune cells, and is also a powerful anti-inflammatory and wound healing agent. Ongoing research is demonstrating the powerful effect that thymosin beta-4 has on aging skin, in part because of its ability to significantly reduce free radical activity and by boosting the production of collagen and elastin.

This is truly an amazing area of skin-care research that focuses on the instructions that are transmitted to cells and the cells' ability to interpret and carry out those instructions resulting in more normal, healthy and youthful looking skin.

Much, if not most, of visible skin aging is skin that has been damaged or "injured" by the sun's ultraviolet radiation that then elicits inflammatory reactions. If we can repair this damage much like we repair a wound, then skin will look more like it did when we were much younger before the damage occurred.

Your genes are made up of DNA, and some genes are known as "expressive genes." The DNA in these genes contains all the instructions and the only instructions that cells use to build and repair tissue. DNA sends out these instructions via a messenger known as RNA. RNA messengers the instructions to the cell. In order for the cells to accurately repair damage and function properly at least two things must take place:

DNA must send out "good" instructions. As DNA becomes damaged due to sun exposure, for example, the instructions can become increasingly incorrect causing the cells to repair in a faulty manner. The result is what we perceive as skin aging in the form of lines, wrinkles, coarse texture, etc.

When RNA delivers the instructions, the cell needs to have the appropriate "parts" and they need to be in good working order. For example, let's suppose you were assigned to build a car. The instructions are delivered but as you begin the process you find that you are missing parts, or some of the parts you have are compromised in some way. Imagine how poorly the car would run or how it would look. If either of the above is deficient in some manner, then the cell will not repair or function optimally. As time goes on, the process degenerates further and we begin to perceive these inadequacies as the visible signs of aging.

#### Pentapeptides GM and GD

Pentapeptides GM and GD are tiny strings of amino acids (proteins) that can communicate with cells in specific ways by directly improving or more effectively carrying out instructions that the cell needs in order to function and repair properly. These breakthrough peptides are very different from early non-specific peptides in that we can now selectively define the scope of each individual peptide. This enables us to virtually "program" the desired type of repair or assistance.

The topical agents in Transformation address both of these issues. First, thymosin beta-4 appears to assist in making certain that the instructions are received and may help to aid in correcting "bad" information. Thymosin beta-4 also encourages the cell's ability to repair damage more effectively and aids in the encouragement of collagen and elastin. Secondly, pentapeptide GM and pentapeptide GD are designed to enhance the repair or "rebuilding" function by attaching to the cell and very precisely targeting communications, or signaling, so that the cell can correctly interpret and execute this data like a healthier, younger cell. Depending on which pentapeptide we incorporate, we can selectively mimic collagen synthesis, for example, or rebuild many compromised aspects of aging skin. Introducing these powerful signaling agents enables us to exert greater and more precise control over how the cell functions. By augmenting our repair functions we can literally rebuild the appearance of aging and sun-damaged skin.