



Protomorphogen™ Brand Extract

In the 1940s, Dr. Royal Lee pioneered a unique method of deriving extracts which contain what he called “cell determinants” from specific organs and glands for clinical use. Dr. Lee believed that these cell determinants functioned in cell regulation, maintenance, and interaction with tissue antibodies. It is clear both from the description of the extraction process and clinical use that these extracts differ from what is commonly referred to as “glandulars.” Furthermore, because these extracts have a distinct clinical application and effect, they should not be confused with glandulars, or be referred to simply as “protomorphogens.” Rather, Protomorphogen™ is the trademark used by Standard Process Inc. as a brand name assigned to these uniquely derived extracts.

The cell determinant contains the thermostable mineral skeleton that forms the framework onto which the chromosome is then constructed. It is believed that this mineral skeleton, along with its associated nucleoproteins, forms the shortest unit of the chromosome. This unit, the cell determinant, is easily polymerized to form organized groups of cell determinants, that in turn, form the genes which then form the chromosome. The basic structure of the cell determinant is predicated on the specific chemical affinities of the mineral components. Dr. Lee believed that the influence of the cell determinant is due largely in part to the organized groups of mineral links that serve both as a template and a catalyst to initiate the formation of specific protein molecules. At its most basic level, the attached nucleoprotein moiety is simply attracted and bound due to this chemical affinity of the mineral skeleton. It follows then that the individual genetic pattern is actively formed over this basic framework.

While in the cell determinant state, there appears to be an affinity for lipid substances and a high degree of absorption onto connective tissue. The amount of cell determinants in the surrounding extracellular fluid has an impact on cell division. It has been demonstrated that, when cell determinant levels are low, cell division decreases. In similar fashion, when higher concentrations are present, cell division is inhibited. These studies show that stimulation is exerted by both homologous and heterologous cell determinants, while inhibition is exhibited by homologous cell determinants. It is critical to note that this stimulation effect is specifically related to normal cellular growth and not the stimulation of abnormal cell patterns.

It also appears that cell determinants can group to form cell-mediated growth factors. There are a number of cell-mediated growth factor cycles. These include the determinant cycle, which is specifically concerned with the organization of cell morphology, and the metabolic cycle, which is related to cellular energy mechanisms.

At mitosis, the chromosome discharges a significant amount of chromatin into the cytoplasm. This organizes the morphology of the cell cytoplasm. The metabolic cycle may be an augmented manifestation of the determinant cycle. It is interesting to note that synthesis and excretion of cell determinants is a dynamic process and appears to occur independently of the determinant cycle since extracellular cell determinants continue to accumulate even after cell division ceases.

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Cell determinants are found intact throughout the body and play a role in cell growth and regulation. Proper ratios of intracellular and extracellular cell determinants are critical for optimal cellular health. It appears that poor cellular function and abnormal cellular growth may have their roots in abnormalities of the cell determinant cycles. Based on this hypothesis, adding Protomorphogen™ brand extracts has been shown to help maintain cellular health. This effect is believed to be the result of keeping the cellular processes in proper balance. In an atmosphere of appropriate cellular balance, maintenance and normalization of the cell cycle can occur; especially in the presence of suitable, biochemical-supportive nutrients known to have significant influence upon the organ in question (for example, vitamin A on the eyes).

The use of Protomorphogen™ brand extracts can aid in maintaining normal cellular metabolism and cell cycling. This is an important feature that should not be overlooked and is perhaps one of the most important reasons for using Protomorphogen™ brand extracts in the clinical setting. Of equal importance, it is essential to consistently provide proper nutritional synergists for cellular support. This will improve the efficacy of the clinical application of Protomorphogen™ brand extracts.



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