Glandular Extractions and their Properties

Desiccates, Cytosols, Protomorphogens™

Definitions

- Desiccated Glands
  - To dry out thoroughly.
  - To preserve (foods) by removing the moisture.
  - deprive or exhaust of moisture.
- Cytosol Gland Extract
  - The fluid component of cytoplasm (of a mammalian cell), excluding organelles and the insoluble, usually suspended, cytoplasmic components.
  - See Figure 1.

Definitions cont.

Protomorphogen™ Extract

- Referring to the mammalian cell nucleus components.
- Primarily the ***nucleoprotein*** extract of a mammalian cell.
- **Nucleoprotein**: ***Textbook Of Medical Physiology*** by Arthur Guyton, *7th Edition: page 12.*
  - ***"Special types of proteins are present in different parts of the cell. Of particular importance are the nucleoproteins, present both in the nucleus and the cytoplasm. The nucleoproteins of the nucleus contain DNA, which constitutes the genes, and these control the overall function of the cell as well as the transmission of hereditary characteristics from cell to cell."***

- **Nucleoprotein** ***n. Mosby's Medical Encyclopedia*** [NUCLEO- + PROTEIN]

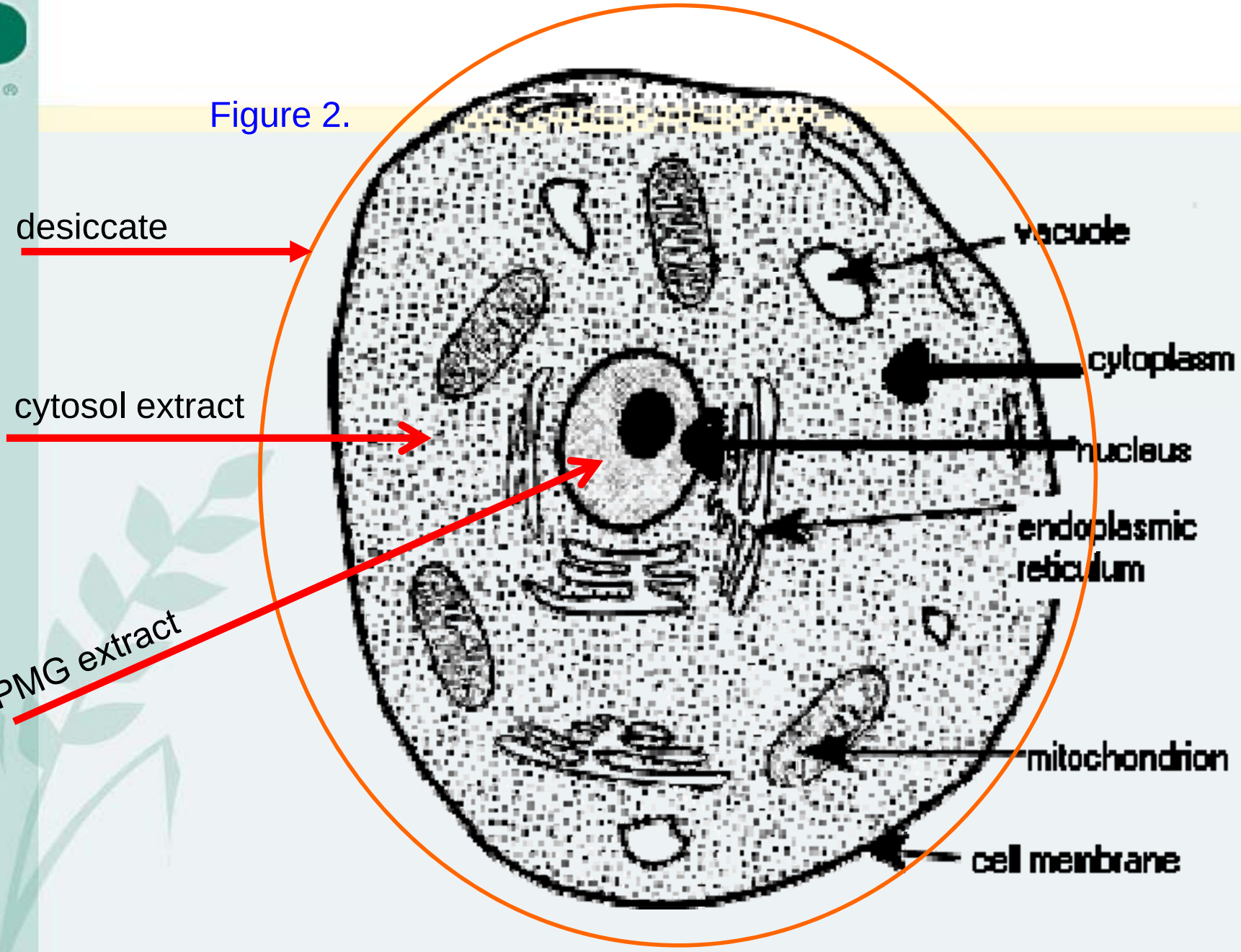
  *any of a class of compound proteins consisting of nucleic acid linked to protein****, found in the nuclei and surrounding cytoplasm of living cells.***

Figure 1.

Nucleus: "Contains chromosomal DNA packaged in chromatin fibers. Plays central role in heredity. Controls cellular activity."

Cytosol: "Gel-like intracellular liquid where many of the cell's chemical reactions occur."

Figure 2.


desiccate
cytosol extract
PMG extract
vacuole
cytoplasm
nucleus
endoplasmic reticulum
mitochondrion
cell membrane

Desiccated Glandular
Functional Definition

- Entire gland is dried to remove all moisture
  - Contains all substance intrinsic to that gland present at the time of drying. Includes vitamins, minerals, proteins, fats, etc.
  - Two important vitamins were first discovered by feeding desiccated liver to patients:
    - Vitamin B12 – antipernicious anemia vitamin and is the erythrocytic maturing factor.
    - Folic Acid – Partner of vitamin B12 in red blood cell creation.
  - Excellent source of iron, B complex vitamins, protein.

The Endocrine Control of Physiological Immune Reactions, by Dr. Royal Lee

Lecture Number Two of Two Delivered Before The College of Endocrinology and Nutrition

San Francisco, California May 7,1963

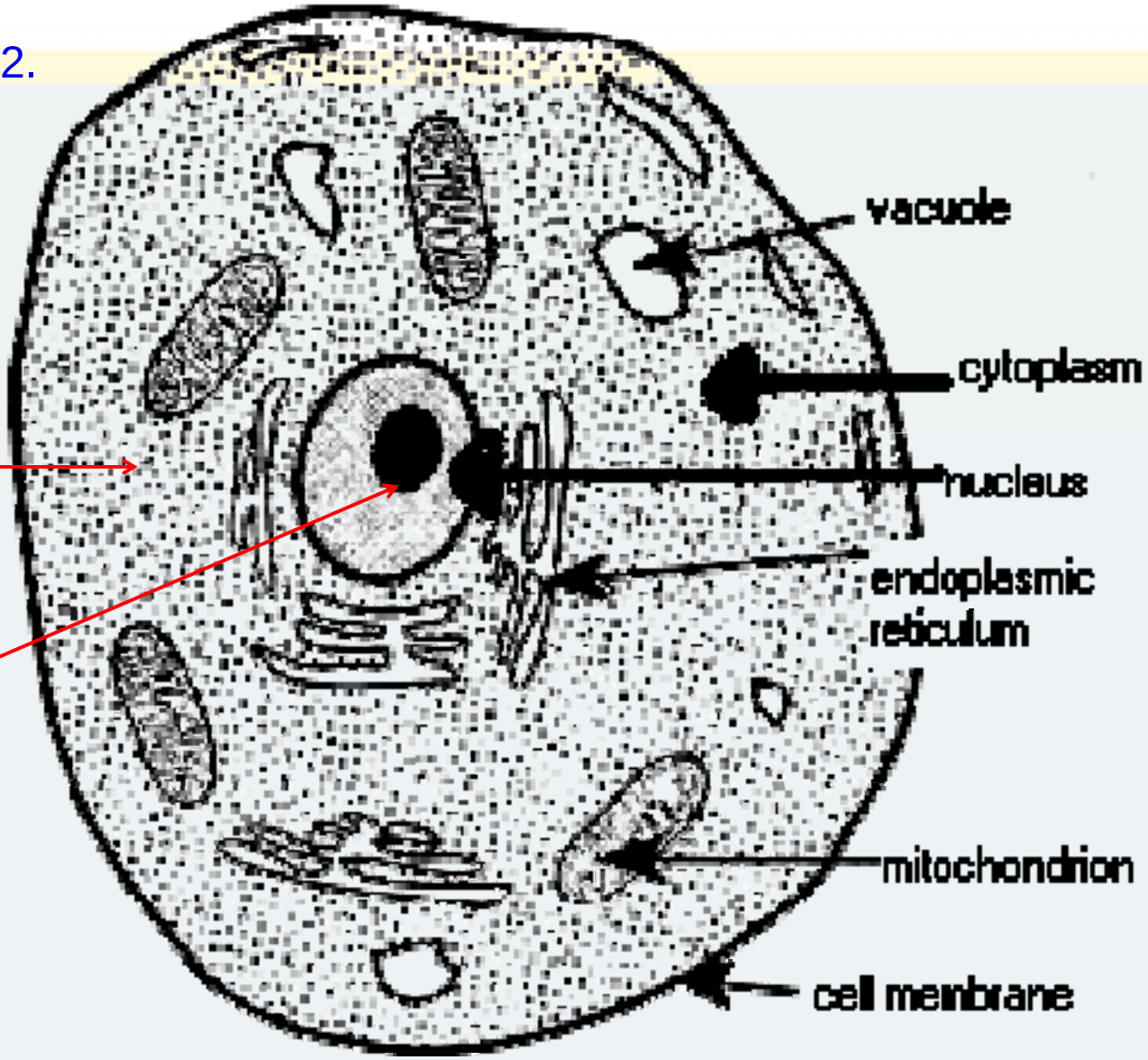
from *Lectures of Dr. Royal Lee, Vol. I* (published by Selene River Press)

"Here we might mention a fourth fraction of the dry preparations of the thyroid gland that has therapeutic merit, but not of hormone classification. It is the determinant in the thyroid cells that would, if present in the bloodstream of a hypothyroid subject, act to promote gland growth; the Protomorphogen factor that might be properly termed THYROGEN. **Most desiccated tissue preparations have too dilute a proportion of the determinant (Protomorphogen – PMG) factor.** It should, therefore, be specially concentrated for best use. But there is no reasonable doubt that it is this THYROGEN (PMG) factor that has created the clinically superior reputation of dried thyroid preparation over thyroxin for the hypothyroid patient. It has the effect of promoting the regeneration of thyroid tissue, and in time eliminate or at least reduce the therapeutic dosage."

Figure 2.

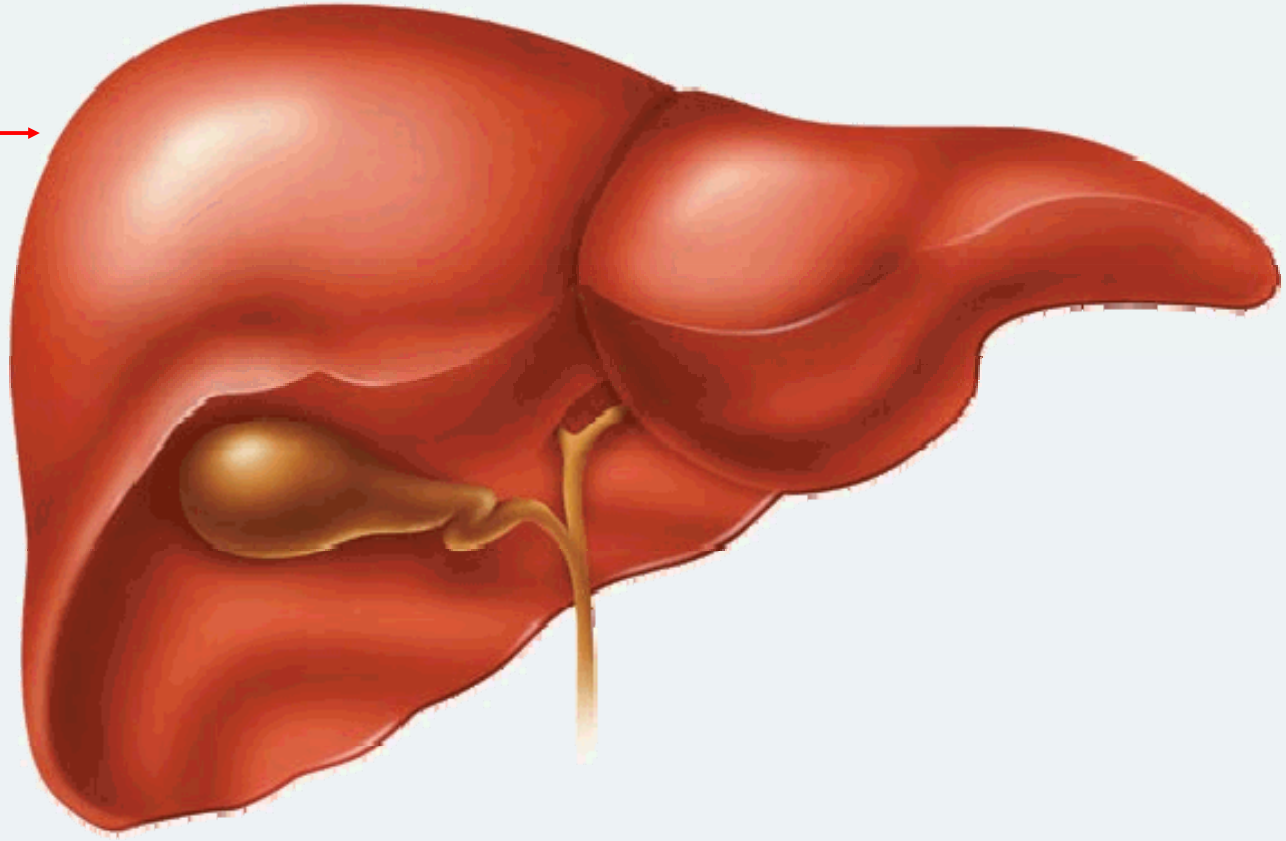
Cytosol extract
Contains the cytoplasmic contents of the cell

PMG extract
Contains the nucleoprotein content of the cell



Desiccate
whole gland

Contains full
content of gland



Functional Differences

- Whole desiccated gland contains all surviving factors of the tissue. PMG component is very low as the cell nucleus is tiny in comparison to the whole cell. Overall benefit is nutrient supply.

Functional Differences cont.

- Cytosol Extract is the cytoplasm extract of the cell. It is captured as the nucleus is separated during PMG extraction. Heavier PMG falls to the bottom and cytosol extract floats above.
  - Cytosol contains the dynamic cell components, such as the mitochondria. It has the opposite electrical charge of the nucleus (see Lee's description next page).
  - It effect upon ingestion appears to stimulate output of corresponding organ. This is not necessarily a healing effect but rather only a stimulating effect.

Electrical Difference of Cytoplasm and Nucleus of Mammalian Cell

- From Lee Lectures Vol. II:
  - "Dr. Kryle, of Cleveland, showed years ago that every living cell has to maintain an electrical difference of potential between its nucleus and cytoplasm. Just like a charged battery. And when that electrical potential is gone it's dead, just like a dead battery and it disintegrates. The potential is necessary to keep the organs of the cell properly disposed. The repelling effects of the two charges and the attraction of the opposite charges and the repelling effect of the single charge within the nucleus."

Functional Differences cont.

- Protomorphogen™ Extract is the nucleus extract of the cell. Nucleoproteins dominate the cell nucleus. Contains chromosomal DNA packaged in chromatin fibers. Plays central role in heredity. Controls cellular activity.
  - This is the only part of a cell that is ***antigenic*** if it reaches the bloodstream of the original host or provide orally to another mammal. (See Britannica on following page).
  - The PMG Extract ™ thus acts as an oral antigen. It provides no nutrients. The genetic material contents (nucleoprotein) elicits an antibody response from the immune system.
  - Functional rational for PMG usage is to distract autoantibodies from attacking the organ that is “hemorrhaging” nucleoprotein into the bloodstream. This *action of distraction* by the PMG allows time for nutritional repairs to occur in the weak organ without the inflammatory stress caused by autoantibodies. *(see Britannica explanation next slide)*

Systemic lupus erythematosus (SLE).

Encyclopædia Britannica 1994.

- **"Systemic lupus erythematosus is one of a spectrum of diseases in which <u>autoantibodies</u> are made <u>against the nucleic acid and protein constituents of normal cell nuclei.</u>** *Damage in SLE is not due to the antibodies attacking healthy cells, since the nucleus is not accessible to antibodies outside the cells. Instead, it results from immune complexes that form after nuclear constituents have been released into the bloodstream during the normal course of cell death and renewal or as a result of inflammation…* **<u>It is a striking fact that most of the autoantibodies that occur in SLE patients react with the corresponding tissues or components in all mammalian species examined.</u>*** These antibodies must, therefore, be directed against structures that have important functions and that have been conserved during the process of evolution… No single or simple defect or genetic factor has been identified that would account for the development of autoimmunity…and thereby provide a clue to the cause of the disease in humans." *(emphasis – underline, bold, italics – added)*

**This statement reveals the basis for PMG theory in clinical practice.*

Nutshell Summary

- Desiccated gland: *Nutrient-rich substance.*
- Cytosol Extract: *Gland/organ stimulation.*
- PMG Extract: *Oral antigen to counter autoantibodies resulting from autoimmune reactions to organs.*