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EFFECTS OF LOCAL PLANT EXTRACTS ON CELL MEMBRANE CONDUCTIVITY

Khakimova Sevara Khamzaevna
1st Year Master
Denau Institute of Entrepreneurship and Pedagogy

Abstract
Plant extracts use plants as raw materials, according to the need for the final product, through physicochemical separation and separation processes, targeted extraction and concentration of one or more active substances of plants, without changing the structure of the active ingredients. This substance can be widely used as a raw material in downstream industries such as food, beverage, medicine, health products and cosmetics.

Classification of plant extracts

1. According to the composition of the active substance, it can be divided into three types: effective monomer extract, standard extract and ratio extract;
2. Divided into glycosides, acids, polyphenols, polysaccharides, terpenes, flavonoids, alkaloids, etc.;
3. Depending on the shape of the product, it can be divided into vegetable oil, extract, powder, lens and so on.
4. According to the purpose, plant extracts can be divided into natural pigment products, extract products of traditional Chinese medicine, extract products and concentrated products. Plant extracts have many types and functions and can be divided into five categories: pigment, flavor release, pharmacological effects, and health function. They can be used as a dietary supplement. Plant extracts use plant materials (whole parts or parts of plants) as raw materials and can be used to improve human health or for other purposes. The plant extract is mainly used as an extract of medicinal plants or plants used in various places, to improve human health. Plant extracts are widely used in many countries and regions around the world. U.S. Dietary Supplement on Health and Education; dietary supplements of plant extracts and the U.S."Guidelines for the Study of New Botanical Medicines"; allow botanical intermediaries (i.e., extracts, including high- and purified products) as prescription drugs and over-the-counter drugs; in some EU countries and regions, plant extracts are used as raw material for food or other medicines for health (individually as a prescription drug). In Germany, for example, German legislation allows plant extracts to be registered as prescription drugs. The main active ingredients of plant extracts

are alkaloids, flavonoids, polysaccharides, glycosides, organic acids, essential oils and others. Food supplements can be used in health food, cosmetics and other fields and are a staple product in natural medicine. health products market. The plant extracts are widely used in botanical medicines, health products, beverages, food supplements, daily necessities and cosmetics. In this society, beauty-based medicinal plant extract has the most promising prospects in cosmetics. In cosmetics, the plant extract actually adheres to the concept of TCM cosmetology, using powders, ointments, water and other cosmetic preparations to smooth out wrinkles, reduce wrinkles, achieve beauty and delay skin aging. The fact that 39 people pay more attention to health and well-being has become a priority in recent years. Chinese herbal medicine is widely used in skin care cosmetics due to its unique mechanism and cosmetic effects. Fish extract, aloe vera and various extracts of Chinese herbs are more common functional supplements to achieve moisturizing, whitening and anti-inflammatory purposes. Plant extracts (plant extracts) are products of the process of physical and chemical extraction and separation of plant (including fruit tissue, etc.) as a raw material and the concentration aimed at obtaining one or more effective components, its effective component structure. It can be used as a widely used raw material in food, beverage, medicine, health products, cosmetics and other downstream industries. There are many types of plant extracts. Today, more than 300 species of plants are industrially developed. There are various methods of classification, the composition of the effective components is divided into an effective monomer extract, extracted from the extract, and derives three types of the standard type; contains glycosides, acids, polyphenols, polysaccharides, flavonoids, terpenoids, alkaloids and others. in the form of products can be divided into vegetable oil, extract, powder, lens and others. The plant extract can also be divided into natural pigment products, traditional Chinese medicine product, extract, product and concentrated products. These membranes are complex and very special, unique structures that determine the vital processes of the cell. Membranes control the entry and exit of substances into the cell, biochemical processes associated with membranes, and cellular metabolism through enzymes located in membranes. Membranes also perform a limiting function. Molecules of different substances (for example, proteins) acquire special, specific properties only as a result of their arrangement and interaction. This relationship of substances is observed in biological membranes. There are currently various theories that interpret the structure of the biological membrane. The most common of these is the Davson and Danielli theory, which represents the layered structure of the membrane. These scientists continued the idea that other erythrocyte membranes are composed of lipids and oxides, suggesting that lipids are located in the center of the

membrane in the form of a biomolecular membrane, while protein molecules are located on the outside of the membrane. Lipid molecules are arranged parallel to each other, and their hydrophilic (polar) parts lie relative to the protein molecules. The hydrophobic (nonpolar) parts of the lipid molecule lie opposite each other. Schostrand, on the other hand, believes that protein molecules have a globular structure. Such a structure is characteristic of all membrane structures. Robertson called membranes with such a structure an elementary biological membrane. Recently, other theories representing the structure of membranes have also emerged. This is a micellar theory that suggests that membranes are composed of globular subunits. These subunits are lipoprotein complexes in which the protein molecules are located outside the subunit and the lipid inside. Many scientists believe that the electrostatic force generated between the polar groups of amino acids and the heads of phospholipids determines the location of the protein molecule outside the lipid. The mosaic theory describes the relationship between proteins and lipids. According to this theory, some of the protein globules float freely in the "ashes", while some protein molecules occupy the inside of the membrane. The structure of the cell membrane in the fluid-mosaic model. Lipid bicavity of membrane 1; 2-globular proteins; 3-glycocalyx. Biological membranes contain proteins, in addition to lipids, carbohydrates, inorganic ions, and water. The proteins that make up the membrane are divided into two groups: structural and globular proteins. Globular proteins form enzymes that play an important role in the membrane transport of substances. The structure determines the elastic and contractile functions of the protein membrane. Metabolism between the cell and the environment occurs selectively through the plasma membrane of the cell. This membrane plays an important role in regulating the stability of cell composition. This is because all the sensory substances enter the cell membrane, and the products (for example, secretory inclusions) formed as a result of the activity of the cell, as well as wastes are released. The cell membrane not only prevents the entry of some substances, but also does not inhibit others. Substances can enter the cell by diffuse route. It is known that the diffusion phenomenon is the dispersion of a substance from a place of high concentration to a place of low concentration. Therefore, the phenomenon of osmosis, that is, the diffusion of solvent molecules through the semiconducting membrane (for example, the cell plasma membrane) occurs. The transfer of substances into or out of the cell occurs with the use of energy by enzymes present in the cell membrane. This process is called tarot transfer of substances. Accordingly, the cell maintains a certain concentration of ions in the cytoplasm. The cell regularly contains a number of large and small molecules, various organic compounds, as well as potassium, magnesium,

phosphate, sodium, and chlorine ions. the concentration of sodium ions in the cell is controlled by the pasmatic membrane by removing or absorbing these ions. This means that the concentration of sodium ions in the cell does not increase through the mechanism that removes these ions from the cell. This mechanism prevents the accumulation of Na + in the cell and increases the pressure in the cell, and ultimately protects the cell from destruction (swelling, rupture). Since sodium ions enter the cell by diffuse way and increase its concentration, the enzymes in the plasma membrane of the cell and the energy expenditure (active excretion of ions) ensure the stability of this ion concentration in the cell. A change in the ratio of ion input and output changes the functional state of the cell membrane (excitation impulses in nerve cells cause the secretion process in some cells) and the state of other ions in the cell and in the surrounding environment. The presence of this "pump" creates tension in the plant cells and, depending on the living conditions of the plant, ensures that it collapses and returns to its previous state. The entry and exit of various ions into cells takes place through the aforementioned "pumping" process, while the entry and exit of certain organic substances (glucose) takes place through an active conduction process. If there is a lack of organic molecules in the cell, that substance will continue to enter the cell by diffusion. Although the concentration of this substance in the cell increases, if its normal activity requires it, this substance will continue to enter the cell. The substance combines with the "carrier" substance in the plasma membrane of this cell and acts against the flow of concentration. Energy is used to overcome this "strong" current. Due to the energy of the membrane, this substance passes into a highly concentrated medium. So, two things play an important role in the entry of this substance: the binder of the substance, i.e. the enzyme, and the energy expenditure. the cell membrane acts as a barrier to the movement of matter and ions. The internal environment of a cell is different from the cell environment. For example, the concentration of K + around the erythrocyte is high, and in the cytoplasm on the basis of the concept of Na +, Sa + pump explains the excitation in the cell (transmission of excitation through the nerve cell tumor and the process of muscle contraction). The presence of Na + in the cell is necessary for the Na + / K + pump process to take place. The entry of K + into the cell suppresses the removal of Na + from the cytoplasm. These two processes are interconnected and the two ion pumps work together. The amount of K + ions that enter the cell is not equal to the amount of Na + that is removed from the cell. One K ion enters the 3 sodium ions removed from the cell. In this case, the energy generated by the breakdown of one molecule of ATF provides the process of ion exchange above. Water passes through the membrane by diffusion. Dissolved substances such as ions, sugars, amino acids, nucleotides are transported

by special membrane carriers - proteins. These proteins are specific to each carrier. The concentration of the substance released from the cells on both sides of the membrane is determined by the difference (concentration gradient). When the emitted substance is charged, its transport is affected by the concentration gradient and the total electrical gradient of the membrane - the membrane potential. The concentration gradient, together with the membrane potential, forms the electrochemical gradient of the cell membrane.

References

1. Djumaniyazova N.S., Aliev X.U., Razikova I.I., Batyrbekov A.A. Influence of some plant assemblages on immunogenesis in the experiment // Journal of Theoretical and Clinical Medicine. - 2011.- №3.- S. 13-15. (14.00.00; №3).
2. Aliev X.U., Razikova I.S., Djumaniyazova N.S., Samedinov R.S. Influence of new plant growths on immunogenesis at hemolytic anemia in experiment // Farmatsevticheskiy journal. - Tashkent, 2011. - №3.- S. 61-65. (14.00.00; №2).
3. Abdijalilova Z. Kh. and Yunusova Kh. M. “The substantion of the tablet mass “Ambrol” composition choice for tabletizing”// World Journal of Pharmacy and Pharmaceutical Sciences. -2019.-Vol.8, Issue 1, -P.- 260-266. (SJIF Impact Factor 7.421)
4. Abdijalilova Z. Kh. and Yunusova Kh. M. “Study of influence of technological factors on indicators of quality of tablets of secrolitic action” // World Journal of Pharmacy and Pharmaceutical Sciences. -2019.-Vol.9, Issue1, -P.- 373-380. (SJIF Impact Factor 7.632).